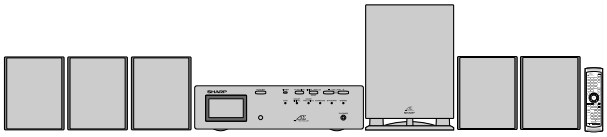
SHARP SERVICE MANUAL

No. ?????????????



1-BIT DIGITAL HOME CINEMA

MODEL SD-AT50H

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

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SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

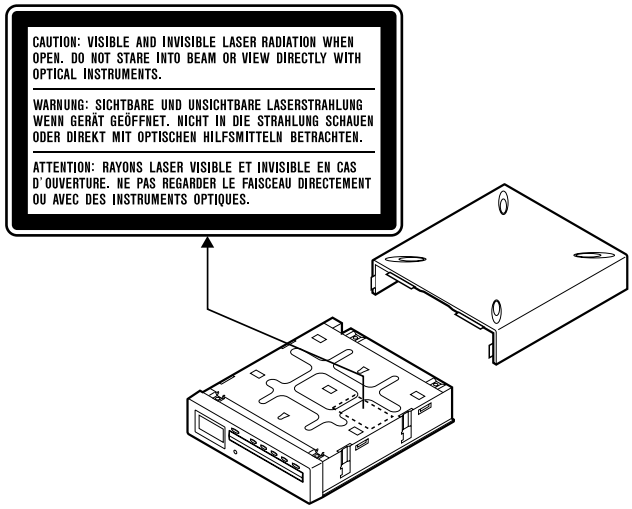
SAFETY PRECAUTION FOR SERVICE MANUAL

Precaution to be taken when replacing and servicing the Laser Pickup.

The AEL (Accessible Emission Level) of Laser Power Output for this model is specified to be lower than Class 1 Requirements. However, the following precautions must be observed during servicing to protect your eyes against exposure to the Laser beam.

(1) When the cabinet has been removed, the power is turned on without a compact disc, and the Pickup is on a position outer than the lead-in position, the Laser will light for several seconds to detect a disc. Do not look into the Pickup Lens.
(2) The Laser Power Output of the Pickup inside the unit and replacement service parts have already been adjusted prior to shipping.
(3) No adjustment to the Laser Power should be attempted when replacing or servicing the Pickup.
(4) Under no circumstances look directly into the Pickup Lens at any time.
(5) CAUTION - Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser Diode Properties
Material: AlGaAs/InGaAlP
Wavelength: 780 nm/650 nm
Emission Duration: continuous
Laser Output: max. 0.69 mW


CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.
WARNUNG: SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN GERÄT GEÖFFNET. NICHT IN DIE STRAHLUNG SCHAUEN ODER DIREKT MIT OPTISCHEN HILFSMITTELN BETRACHTEN.
ATTENTION: RAYONS LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. NE PAS REGARDER LE FAISCEAU DIRECTEMENT OU AVEC DES INSTRUMENTS OPTIQUES.

ADVERSEL-SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. SE IKKE IND I STRÅLEN-HELLER IKKE MED OPTISKE INSTRUMENTER.

VARO! AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ KATSO SITÄ OPTISEN LAITTEEN LÄPI.

VARNING-SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN GENOM OPTISKT INSTRUMENT.

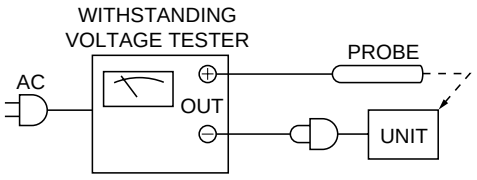
VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING - OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERAS. KAN ANVÄNDAREN UTSÄTTAS FÖR SYNLIG OCH OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

IMPORTANT SERVICE NOTES (FOR U.K. ONLY)

Before returning the unit to the customer after completion of a repair or adjustment it is necessary for the following withstand voltage test to be applied to ensure the unit is safe for the customer to use.
Setting of Withstanding Voltage Tester and set.

Set name	set value
Withstanding Voltage Tester	
Test voltage	4,240 VPEAK 3,000 VRMS
Set time	6 secs
Set current (Cutoff current)	4 mA
Unit	
Judgment	
OK: The “GOOD” lamp lights. NG: The “NG” lamp lights and the buzzer sounds.	



SHORT-CIRCUIT AC POWER SUPPLY CORD

CONNECT THE PROBE TO GND OF CHASSIS SCREW

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

SPECIFICATIONS

■ AV control unit

Dimensions	Width: 215 mm (8-1/2") Height: 58 mm (2-5/16") Depth: 261 mm (10-5/16")
Weight	1.3 kg (2.9 lbs.)
Audio input terminals	Optical digital input (AUX): Square type × 1 Coaxial digital input (DVD/CD): RCA type × 1 Analog input (DVD/CD): RCA type × 1 pair (L/R) Analog input (TV): RCA type × 1 pair (L/R) Analog input (VCR): RCA type × 1 pair (L/R) Analog input (AUX): RCA type × 1 pair (L/R)
Audio output terminal	Headphones: 16 - 50 ohms (recommended: 32 ohms)
Other terminals	System control × 3
Frequency range	FM: 87.5 - 108 MHz AM: 522 - 1,620 kHz

■ Subwoofer/amplifier unit

Power source	AC 230 V, 50 Hz	
Power consumption	80 W	
Dimensions	Width: 260 mm (10-1/4") Height: 373 mm (14-11/16") Depth: 421 mm (16-5/8")	
Weight	10.3 kg (22.7 lbs.)	
Output power	Front speakers: RMS: 100 W (50 W + 50 W) (10 % T.H.D., 1 kHz) Centre speaker: RMS: 50 W (10 % T.H.D., 1 kHz) Surround speakers: RMS: 100 W (50 W + 50 W) (10 % T.H.D., 1 kHz) Subwoofer: RMS: 50 W (10 % T.H.D., 100 Hz)	
Amplification system	2.8224 MHz (64fs) 1-bit switching (remarks: fs = 44.1 kHz)	
A/D noise shaping	7th-order $\Delta\Sigma$ (delta - sigma) modulation	
Terminals	Front speakers, Centre speaker, Surround speakers: 4 ohms System control × 2	
Subwoofer	**Type**	16 cm (6-1/2") woofer
	Maximum input power	100 W
	Rated input power	50 W
	Impedance	4 ohms

■ Front/centre/surround speakers

Type	Full range speaker system (magnetic shield) 8 cm (3-1/8") Speaker
Maximum input power	100 W
Rated input power	50 W
Impedance	4 ohms
Dimensions	Width: 95 mm (3-3/4") Height: 114 mm (4-1/2") Depth: 104 mm (4-1/8")
Weight	0.7 kg (1.5 lbs.)/each

NAMES OF PARTS

■ AV control unit

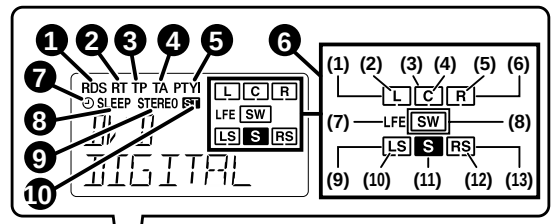
1. RDS Indicator
2. Radio Text Indicator
3. Traffic Programme Indicator
4. Traffic Announcement Indicator
5. Dynamic PTY Indicator
6. Audio Signal Indicators/Speaker Indicators

(1) Left Front Speaker Indicator
(2) Front Left Signal Indicator
(3) Centre Speaker Indicator
(4) Centre Signal Indicator
(5) Front Right Signal Indicator
(6) Right Front Speaker Indicator
(7) Low Frequency Effect Indicator
(8) Subwoofer Indicator
(9) Left Surround Speaker Indicator
(10) Surround Left Signal Indicator
(11) Surround Monaural Signal Indicator
(12) Surround Right Signal Indicator
(13) Right Surround Speaker Indicator

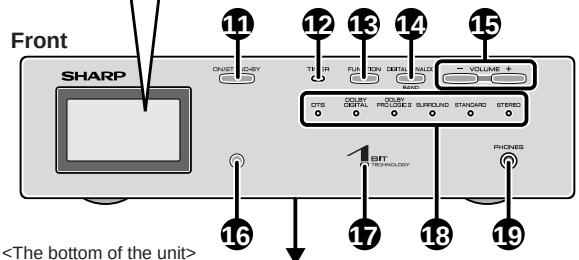
7. Timer Play Indicator
8. Sleep Indicator
9. FM stereo mode indicator
10. FM Stereo Receiving Indicator

11. On/Stand-by Button
12. Timer Set Indicator
13. Function Button
14. Digital/Analog Input Select or Tuner Band Select Button
15. Volume Up and Down Buttons
16. Remote Sensor
17. Power Indicator
18. Sound Mode Indicators
19. Headphone Socket
20. System Connection Socket (to DVD player)
21. Audio Digital Input Socket
22. Coaxial Digital Audio Input Socket
23. Audio Input Sockets
24. System Connection Sockets (to subwoofer/amplifier unit)
25. AM Loop Aerial Terminal
26. Aerial Earth Terminal
27. FM 75 Ohms Aerial Socket

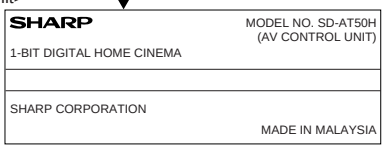
Display



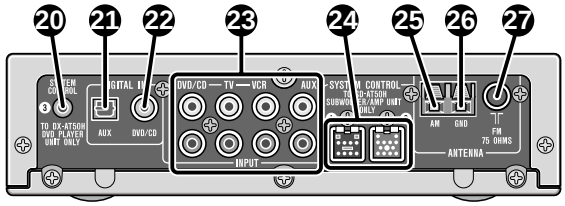
Front



<The bottom of the unit>



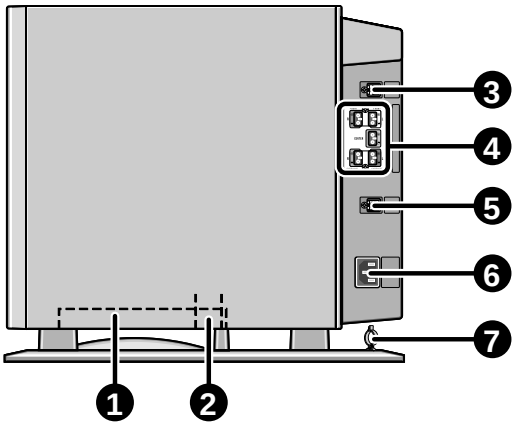
Back



■ Subwoofer/amplifier unit

1. Subwoofer
2. Bass Reflex Duct
3. System Connection Socket (to AV control unit)
4. Speaker Terminals
5. System Connection Socket (to AV control unit)
6. AC Power Input Socket
7. Lead Holder

Side



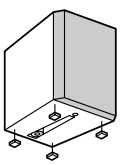
■ Satellite speaker × 5

Front speaker × 2: magnetically shielded
Centre speaker × 1: magnetically shielded
Surround speaker × 2: magnetically shielded

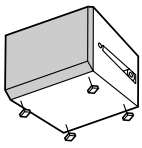
1. Speaker
2. Speaker Terminals
3. Mounting Holes for Stand or Bracket (Optionally available)

Using antislip speaker cushions:
You can install satellite speakers either vertically or horizontally.
Affix the cushions (supplied) to the bottom of the speakers to prevent them from sliding or falling due to vibration.

(Vertical position)

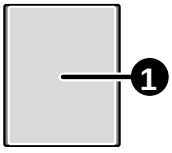


(Horizontal position)

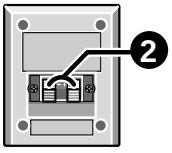


A sheet of speaker cushions (20 pcs.) is supplied with this product. Use 4 cushions per speaker.

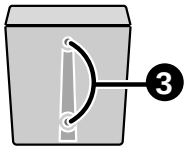
Front



Back



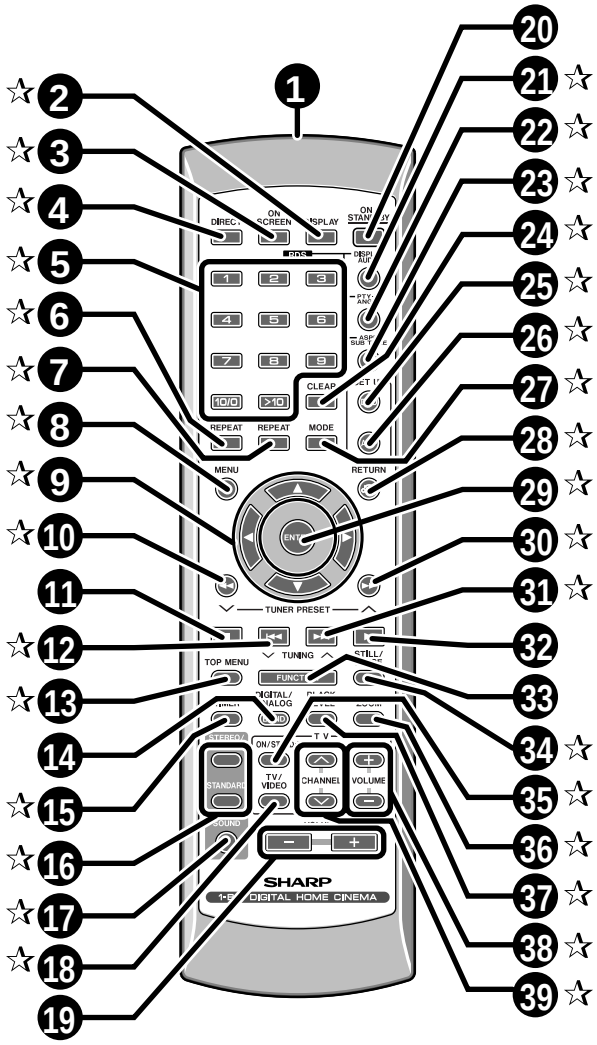
Bottom



■ Remote control

1. **Remote Control Transmitter**
2. **Display Brightness Select or Clock Display Button**
3. **TV Display Select Button**
4. **Direct Button**
5. **Direct Number Buttons**
6. **Disc Repeat Button**
7. **Disc A - B Repeat Button**
8. **DVD Menu Button**
9. **Cursor Button**
10. **Disc Fast Reverse, Tuner Preset Down Button**
11. Disc Stop Button
12. **DVD Chapter Skip, CD/MP3 Disc Track Down or Tuning Down Button**
13. **DVD Top Menu Button**
14. Digital/Analog Input Select or Tuner Band Select Button
15. **Timer Button**
16. **Sound Mode Select Buttons**
17. **Dynamic Sound Select Button**
18. **TV Input Select Button**
19. Volume Up and Down Buttons
20. On/Stand-by Button
21. **RDS Display Mode Select or DVD Audio Language Select or CD Audio Output Select Button**
22. **RDS Programme Type/Traffic Information Search or DVD Angle Button**
23. **RDS ASPM (Auto Station Programme Memory) or DVD Subtitle Button**
24. **Clear Button**
25. **DVD Initial Setting Button**
26. **Amplifier Initial Setting Button**
27. **CD/MP3 Disc Play Mode Select Button**
28. **Return Button**
29. **Enter Button**
30. **Disc Fast Forward, Tuner Preset Up Button**
31. **DVD Chapter Skip, CD/MP3 Disc Track Up or Tuning Up Button**
32. Disc Play Button
33. Function Button
34. **DVD Frame Advance, Disc Pause Button**
35. **TV On/Stand-by Button**
36. **DVD Zoom Button**
37. **Black Level Select Button**
38. **TV Volume Up and Down Buttons**
39. **TV Channel Select Buttons**

Buttons with "☆mark in the illustration can be operated on the remote control only.



DISASSEMBLY

Caution on Disassembly
Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep it safe and ensure excellent performance:
1. Be sure to remove the power supply plug from the wall outlet before starting to disassemble the unit.
2. Take off nylon bands or wire holders where they need to be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
3. Take sufficient care on static electricity of integrated circuits and other circuits when servicing.

AV Control Unit

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top Cabinet	1. Screw ..... (A1) x5	6-1
2	Bottom Cabinet	1. Leg Cushion ..... (B1) x4 2. Screw ..... (B2) x4 3. Screw ..... (B3) x3	6-1
3	Rear Panel/ Tuner Unit	1. Screw ..... (C1) x9 2. Flat Cable ..... (C2) x1	6-2
4	DSP PWB	1. Screw ..... (D1) x2 2. Top Support Bracket ..... (D2) x1 3. Screw ..... (D3) x2 4. PWB Holder ..... (D4) x1 5. Flat Cable ..... (D5) x3	6-2 6-3
5	Main PWB	1. Screw ..... (E1) x4	6-3
6	Front Panel	1. Screw ..... (F1) x4 2. Hook ..... (F2) x2	6-3
7	Display PWB	1. Screw ..... (G1) x6	6-4

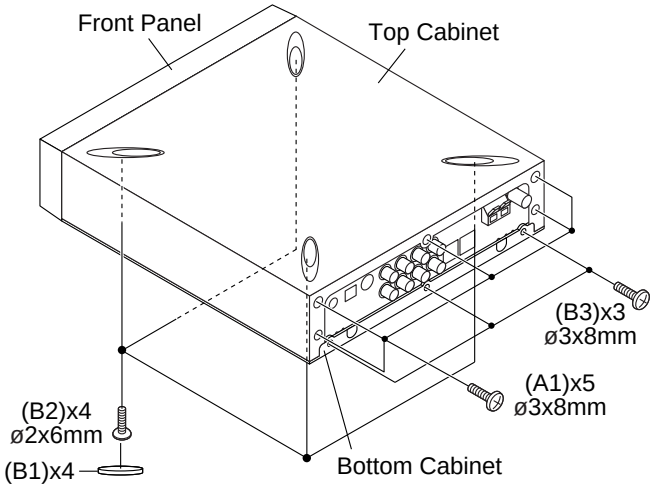


Figure 6-1

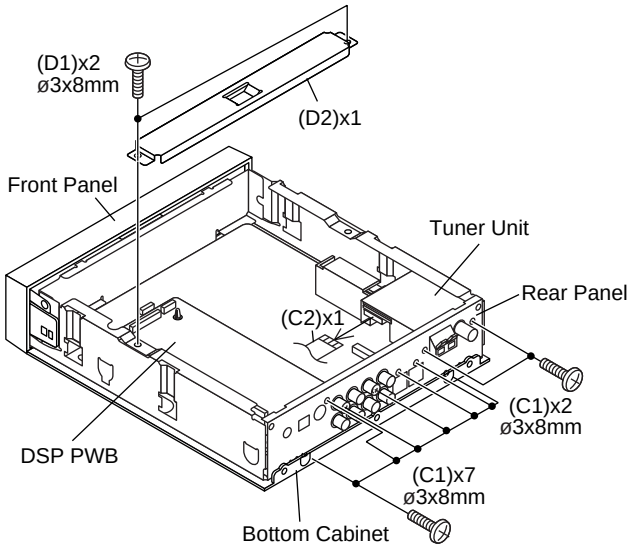


Figure 6-2

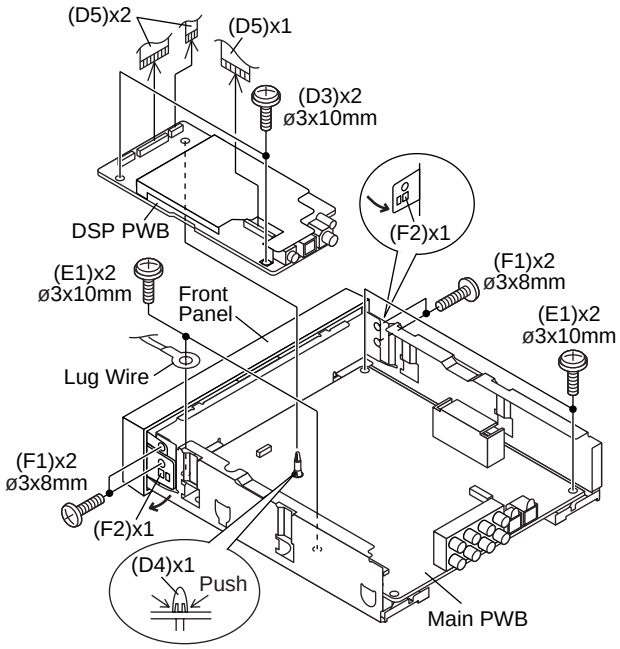


Figure 6-3

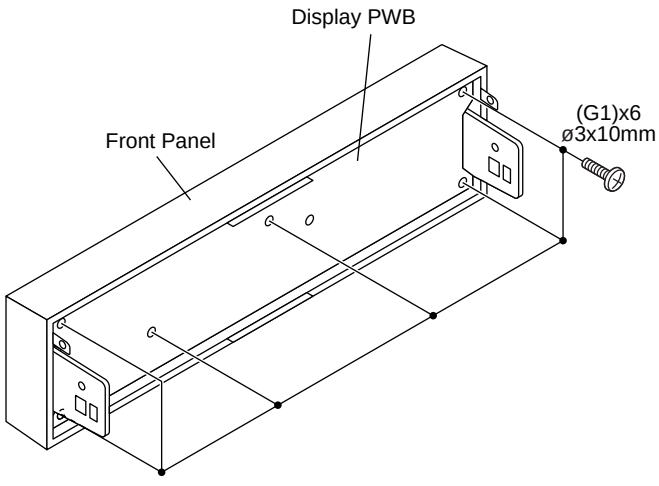


Figure 6-4

Subwoofer/Amplifier Unit

STEP	REMOVAL	PROCEDURE	FIGURE
1	Rear Cover	1. Screw ..... (A1) x16	7-1
2	Subwoofer Stand	1. Screw ..... (B1) x8	7-1
3	Amp. Unit	1. Screw ..... (C1) x5 2. Socket ..... (C2) x2	7-2
4	Power PWB	1. Screw ..... (D1) x4 2. Socket ..... (D2) x5	7-2 7-3
5	Limit PWB	1. Screw ..... (E1) x2	7-3
6	1-Bit Amp. Unit	1. Screw ..... (F1) x8	7-3
7	1-Bit Amp. Cover	1. Screw ..... (G1) x15	7-4
8	1-Bit Amp. PWB	1. Screw ..... (H1) x6	7-5
9	Subwoofer	1. Screw ..... (J1) x4	8-1

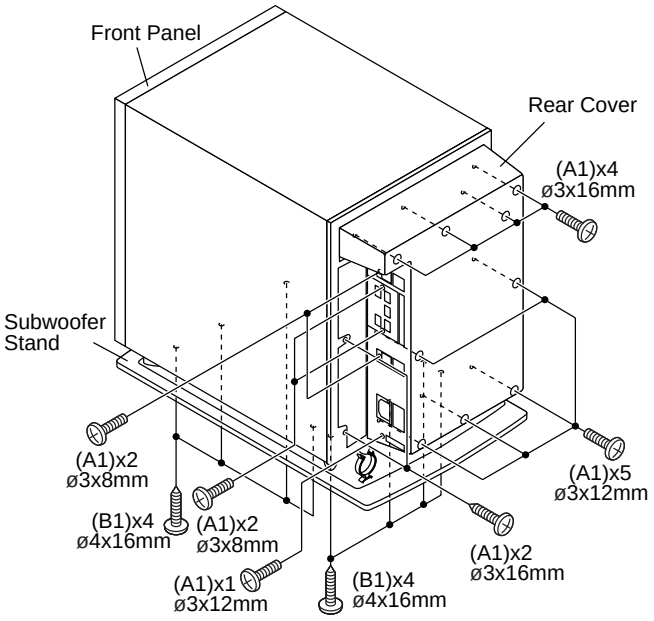


Figure 7-1

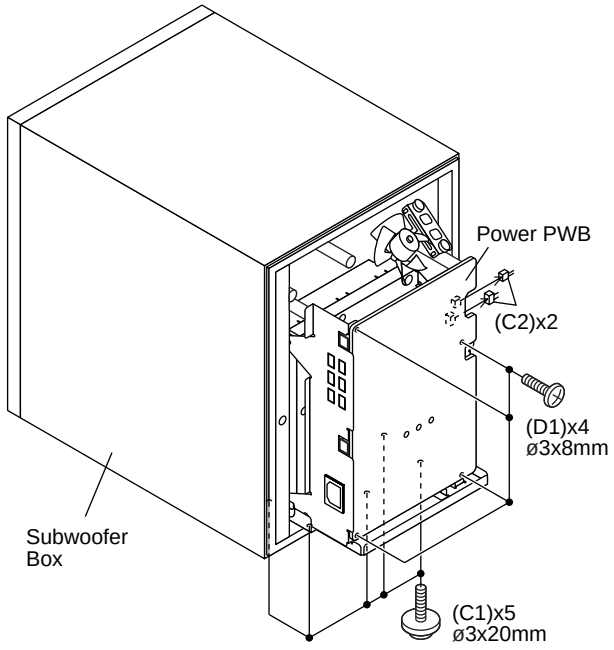


Figure 7-2

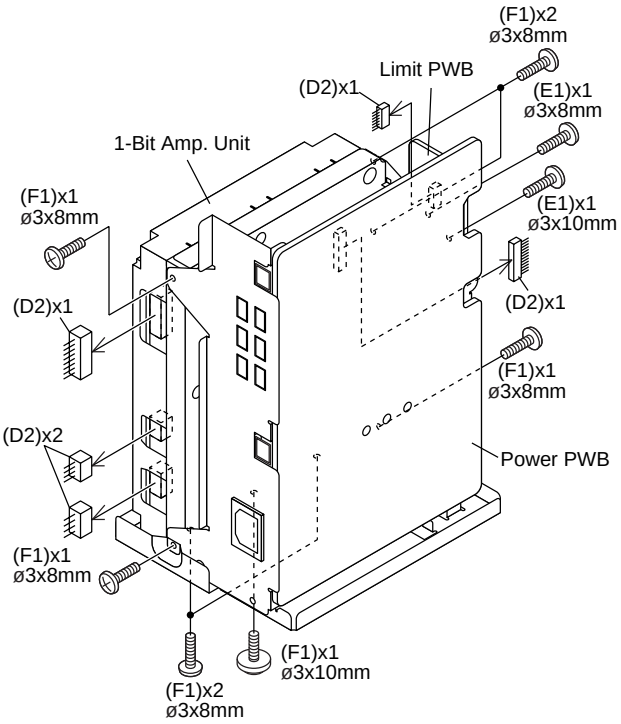


Figure 7-3

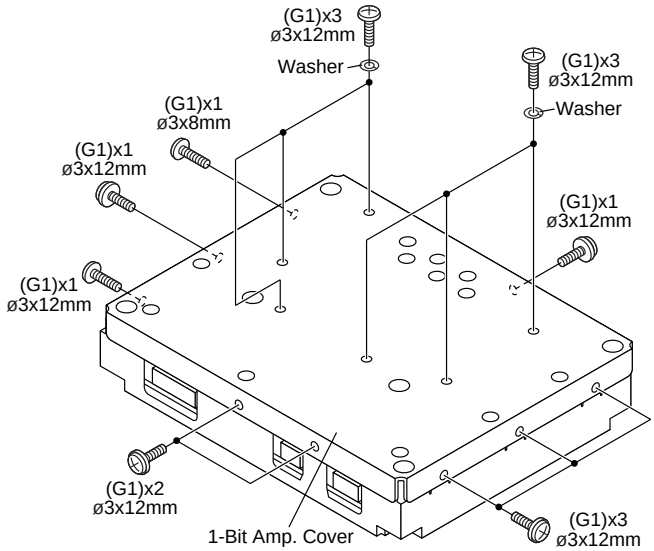


Figure 7-4

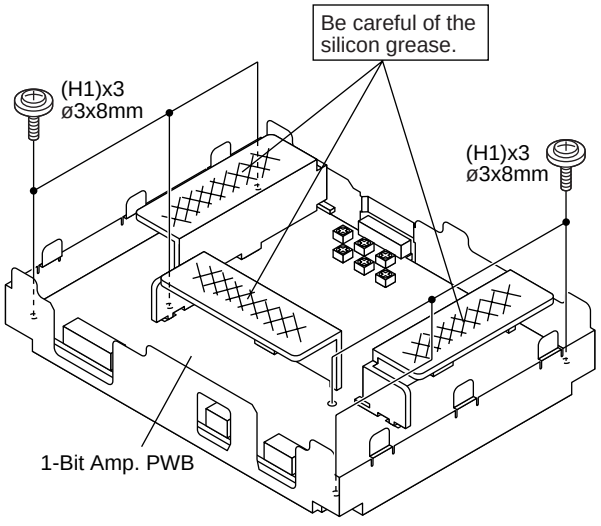


Figure 7-5

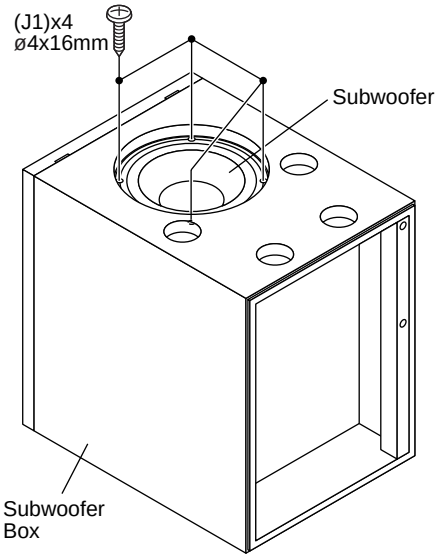


Figure 8-1

(Note 1)
Wrap a slotted screwdriver with a waste cloth, etc. and insert it into the gap to remove the front panel. Take great care not to damage the subwoofer box.

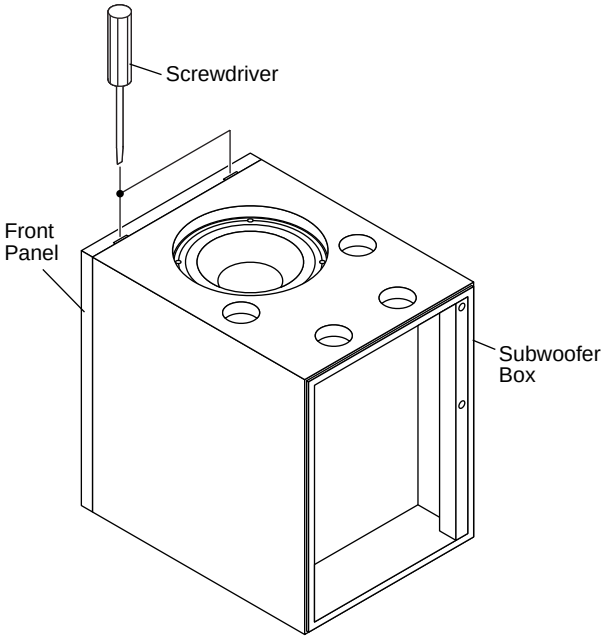
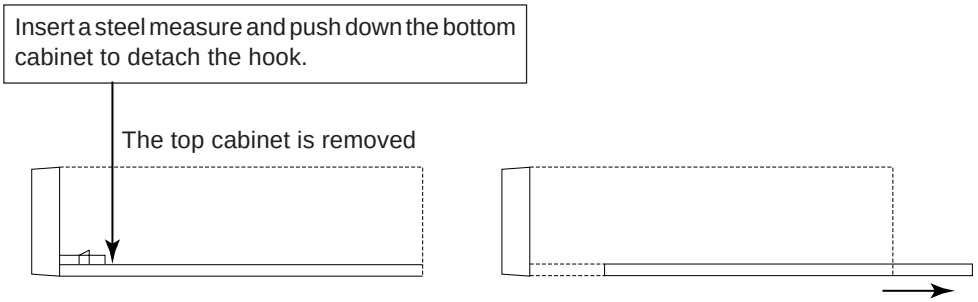


Figure 8-2

ADDITIONAL DESCRIPTION

Disassembling the top cabinet and bottom cabinet
Remove the 5 screws on the backside of the top cabinet. Raise the rear end by approx. 10 mm, the hooks of the front panel and then move it backward by approx. 5 mm. Pushing the top of the front panel to separate from keep the top cabinet horizontal and raise it right above to remove.
Remove the 4 cushions and the 4 screws. On the bottom cabinet push down around the center of the bottom cabinet with a steel measure or like to remove the tab. Slide the bottom cabinet right backward to remove.



ADJUSTMENT

● **1-bit amplifier's output offset voltage adjustment**
Adjust VRA100, VRA101, VRA200, VRA201, VRA300 and VRA301 so that the DC voltage between speaker terminals + and - is set to 0 ± 5 mV at AC 230 V.

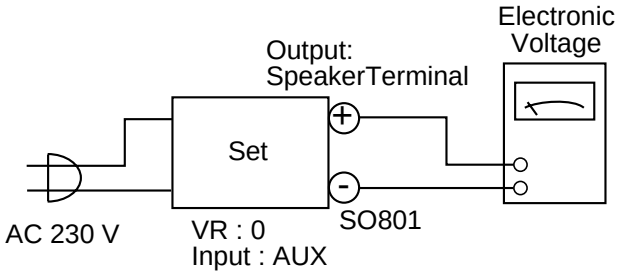


Figure 9-3 OUTPUT OFFSET LEVEL

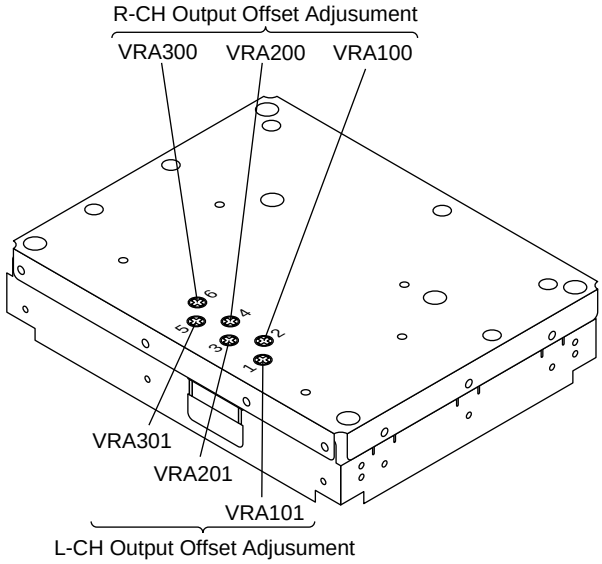


Figure 9-4

DESCRIPTION OF CIRCUIT FOR 1-BIT UNIT (SEE THE WIRING DIAGRAMS ON PAGES 38 AND 39.)

Input section
Signals from CNA100 are coupled by CA100, CA101, CA200, CA300 and CA301, and then sent into the A/D converter IC (ICA100, ICA200, ICA300).

⊿Σ modulation 1-bit converter
Signals from the A/D converter IC (ICA100, ICA200, ICA300) are converted to 1-bit signals and sent differentially. Refer to the technical manual of SM-SX100 for the details of conversion to 1-bit signals.

Dead time and level shift
As for the waveform of 1-bit signals sent through the A/D converter IC (ICA100, ICA200, ICA300), its rise time is delayed by 20 nsec ~ 25 nsec compared to the fall time due to RA114 ~ RA117, RA214 ~ RA217, RA314 ~ RA317 and CA106 ~ CA109, CA206 ~ CA209, CA306 ~ CA309 and DA104 ~ DA107, and DA304 ~ DA307. This is for reducing loss of the switching circuit described later. The 1-bit signals are sent into the buffer IC (the AND gate IC) (ICA101, ICA201, ICA301) and sent as the shaped waveform.

Low pass filter circuit
1-bit signals switched by the output IC (ICA102, ICA107, ICA302 and ICA307) are converted to analog signals through the lowpass filter consisting of LA104 ~ LA107, LA204 ~ LA207, LA304 ~ LA307 and CA114 ~ CA117, CA214 ~ CA217, and CA314 ~ CA317. The low pass filter functions when a frequency exceeds 20 kHz, and reduces it by approx. 3 dB when it reaches approx. 40 kHz.

Dynamic feedback circuit
The 1-bit signals switched by the output IC (ICA102, ICA107, ICA 302 and ICA307) oscillate between positive and negative voltage. After resistance-division, the signals are fed back to the A/D converter IC (ICA100, ICA200, ICA300) through NF resistance 75 kohms (RA130 ~ RA133, RA230 ~ RA233, RA330 ~ RA333). The peak-to-peak voltage reaches approx. 5 V.

TO CHECK AND CANCEL PROTECT CIRCUIT DETECTION LINE

1: In this model the microcomputer (IC301 or IC701) detects the following malfunctions once power is supplied, and cuts off power from all the parts except for the circuit driving the microcomputer.
   ① Abnormal drop in the output voltage of each regulator (below approx. 1.5 V)
   Power is cut off instantly without display.
   ② Output offset over voltage of the 1-bit amplifier (above approx. DC 2 V)
   Power is cut off after "ER_AP02" is displayed.
   ③ Mains overvoltage of the 1-bit amplifier (above approx. DC 5.5 A)
   Power is cut off instantly without display.
   ④ Defects in the cooling fan or its drive circuit (when stopped)
   Power is cut off after "FAN LOCK" is displayed.

2: Criteria for abnormality, and checking and cancelling the detection line
   The criteria:
   ① The voltage of pin 91 on IC301 (PROTECT) or pin 19 (PROTECT) on IC701.
   ② The voltage of pin 29 (OFFSET) on IC701: Low (below approx. 1 V) (abnormal) and High (above approx. 2.5 V) (normal) .
   ③ The voltage of pin 19 (PROTECT) on IC701.
   ④ The motor rotation is controlled when the voltage of pin 20 (FAN CHK) on IC701 is below approx. 1 V.
   The motor stops when it is above approx. 1 V.
   If the voltage of pin 21 (FAN LOCK) on IC701 is not between approx. 0.21 V and 0.9 V whilst the motor rotation is controlled, it is judged as abnormal.

   Checking and cancelling the detection line:
   Caution: If the PROTECT/OFFSET detection line is disconnected in case of ①, ② or ③ above, a protective operation does not function. The disconnection by output short-circuit of each regulator may cause the parts or PCBs to burn out and therefore do not disconnect the detection line when the cause is not identified.
   (Power supply can be detected with an oscilloscope or like during approx. 0.5 seconds after an abnormality is found. Note that the detection would be difficult with a tester as the voltage rises and falls rapidly.)

① Abnormal drop in the output voltage of each regulator
Connect a measuring device (such as an oscilloscope) to the stabilizing output of the regulator, and turn on the unit. If the detected voltage is extremely lower than the voltage on the circuit diagram (below approx. 1.5 V), the regulator itself or the circuit is defective.

② Output offset overvoltage of the 1-bit amplifier
Adjust the voltage of the output offset. If a protective operation is still activated, QA100 ~ QA103, QA200 ~ QA203 or QA300 ~ QA303 on the 1-bit amplifier could be defective (the detection circuit of the speaker output DC voltage).

③ Mains overvoltage of the 1-bit amplifier
The unit functions properly if power is supplied after removing BIA111 (1-bit amplifier main power supply connector). (No sound is heard from the speaker.)

* Adjust the output offset voltage after repair.
If a protective operation is still activated even after removing BIA111, QA413, QA414, QA415, QA410, QA411 or QA412 could be defective (the detection of power supply voltage).

④ Defects in the cooling fan or its drive circuit
Connect a measuring device (such as an oscilloscope) to pin 21 (FANLOCK) on IC701 terminal, and turn on the unit. Connect the collector of Q822 to GND and make sure the fan motor rotates properly. If not, check if the motor or fan is obstructed and the motor itself is defective. If all the above are fine and the voltage of pin 21 is below approx. 0.2 V with the collector of Q822 connected to GND, check Q830, its peripheral circuits or the connection of the fan motor. The fan motor could be defective if the voltage of pin 21 exceeds approx. 0.91 V right after connecting the collector of Q822 to GND and remains above approx. 0.91 V.

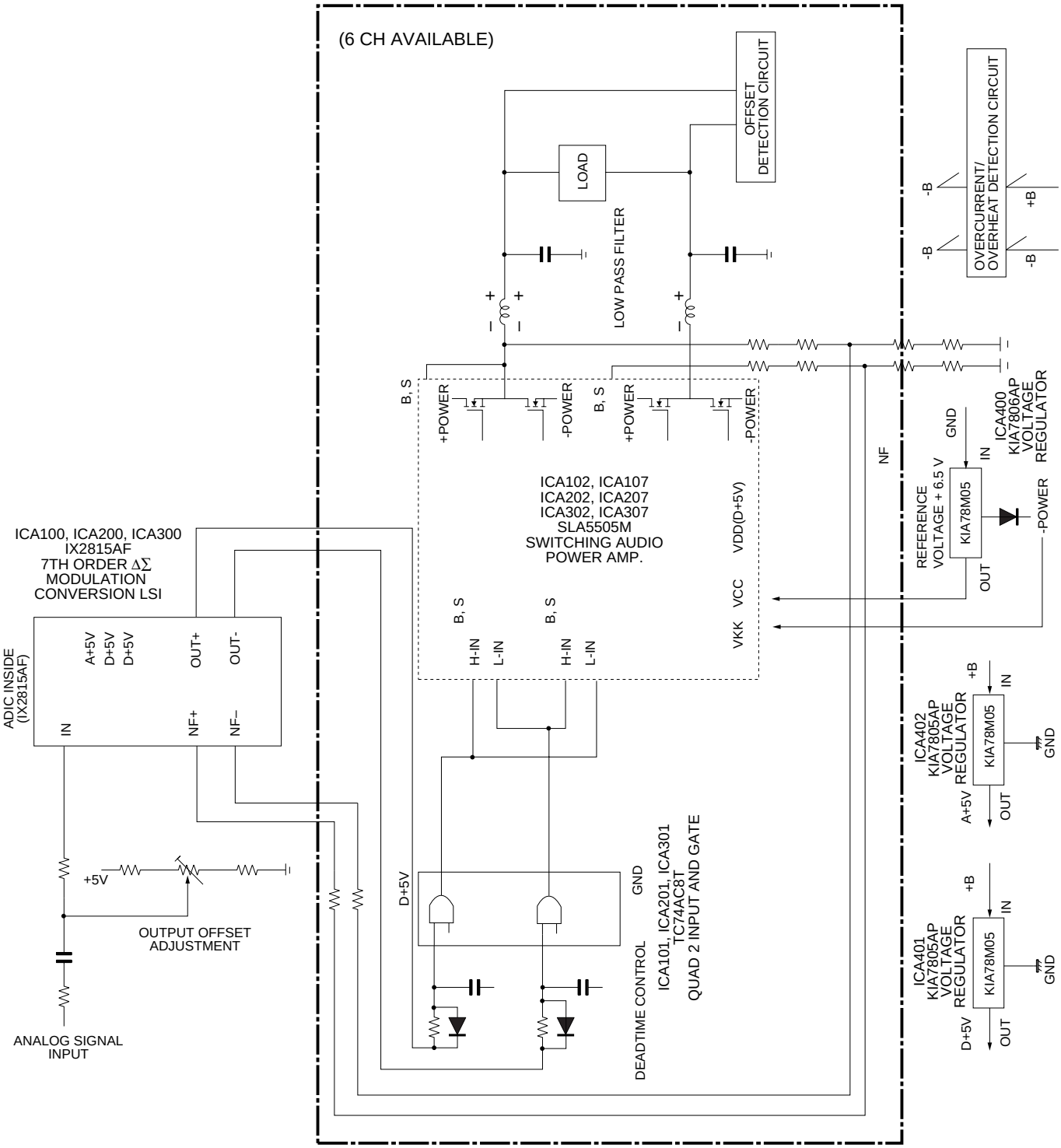


Figure 11 BLOCK DIAGRAM (1/9)

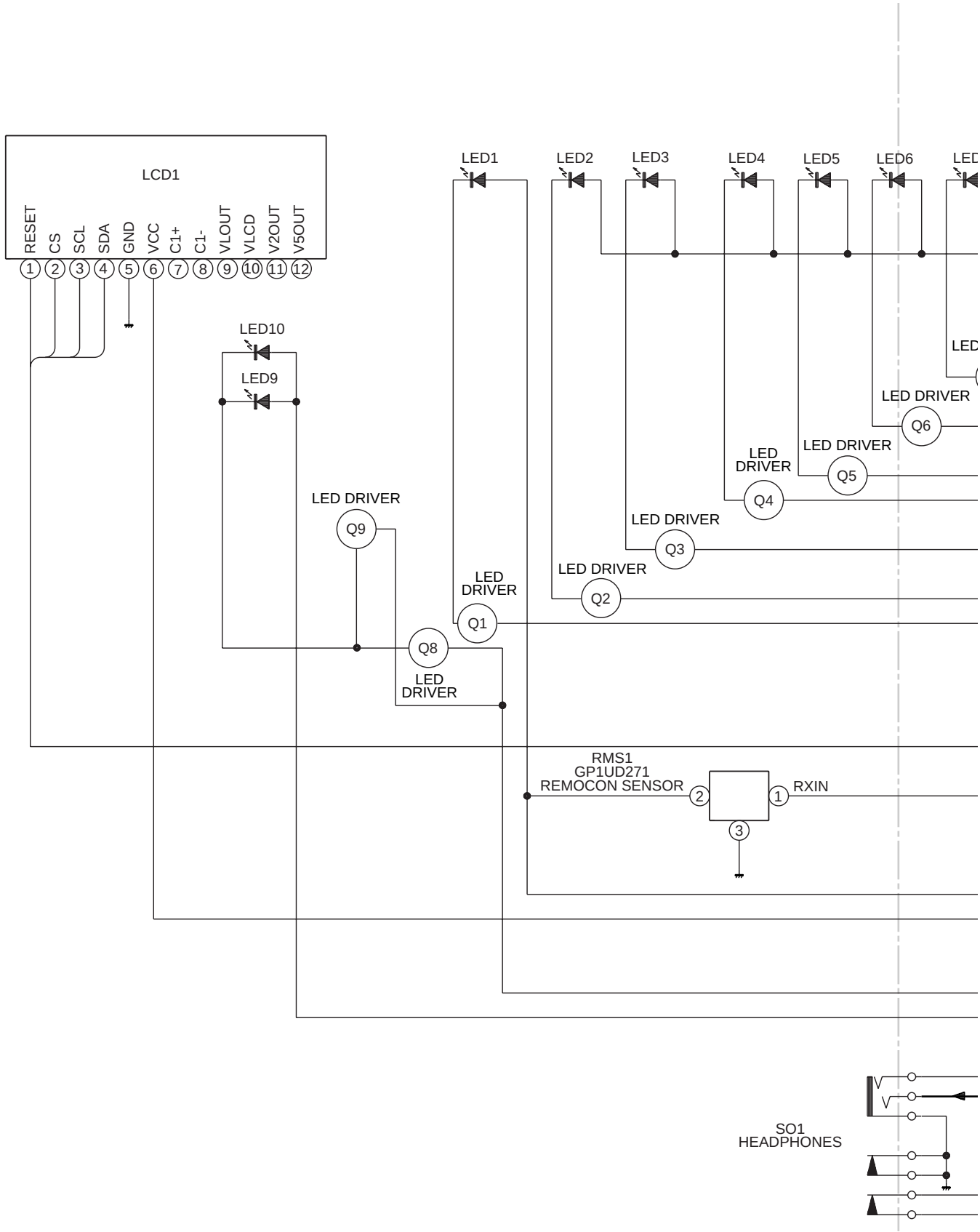


Figure 12 BLOCK DIAGRAM (2/9)

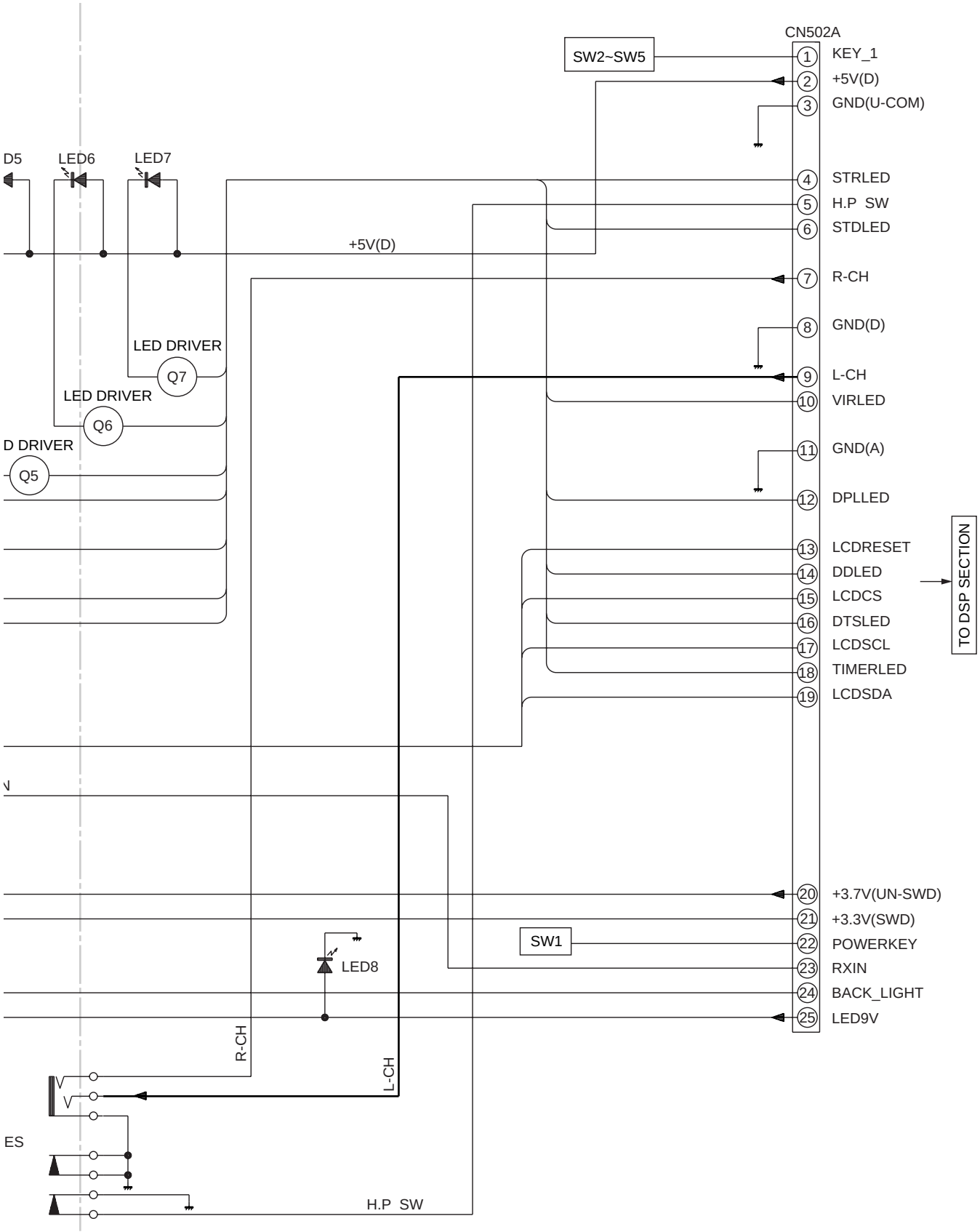


Figure 13 BLOCK DIAGRAM (3/9)

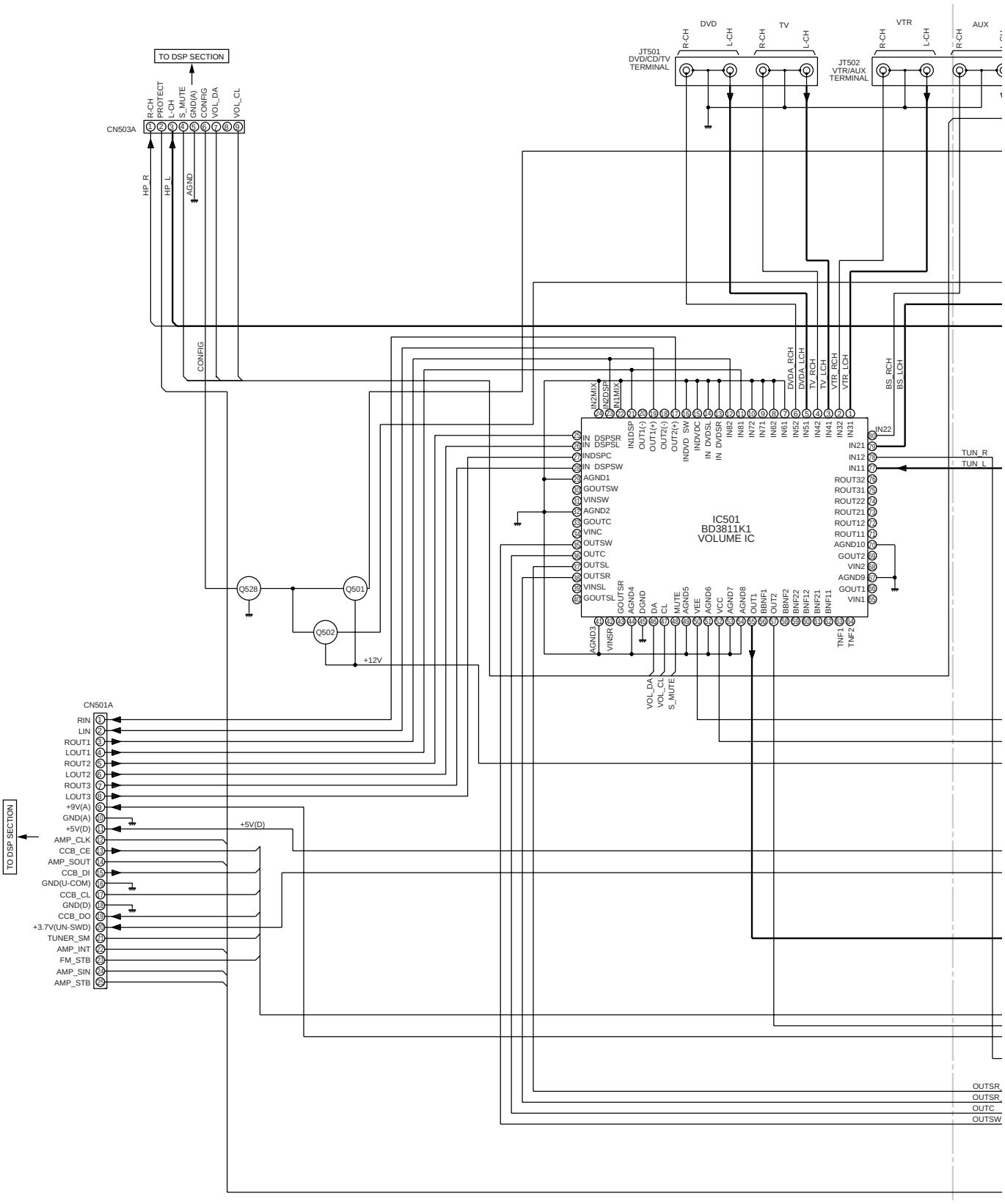


Figure 14 BLOCK DIAGRAM (4/9)

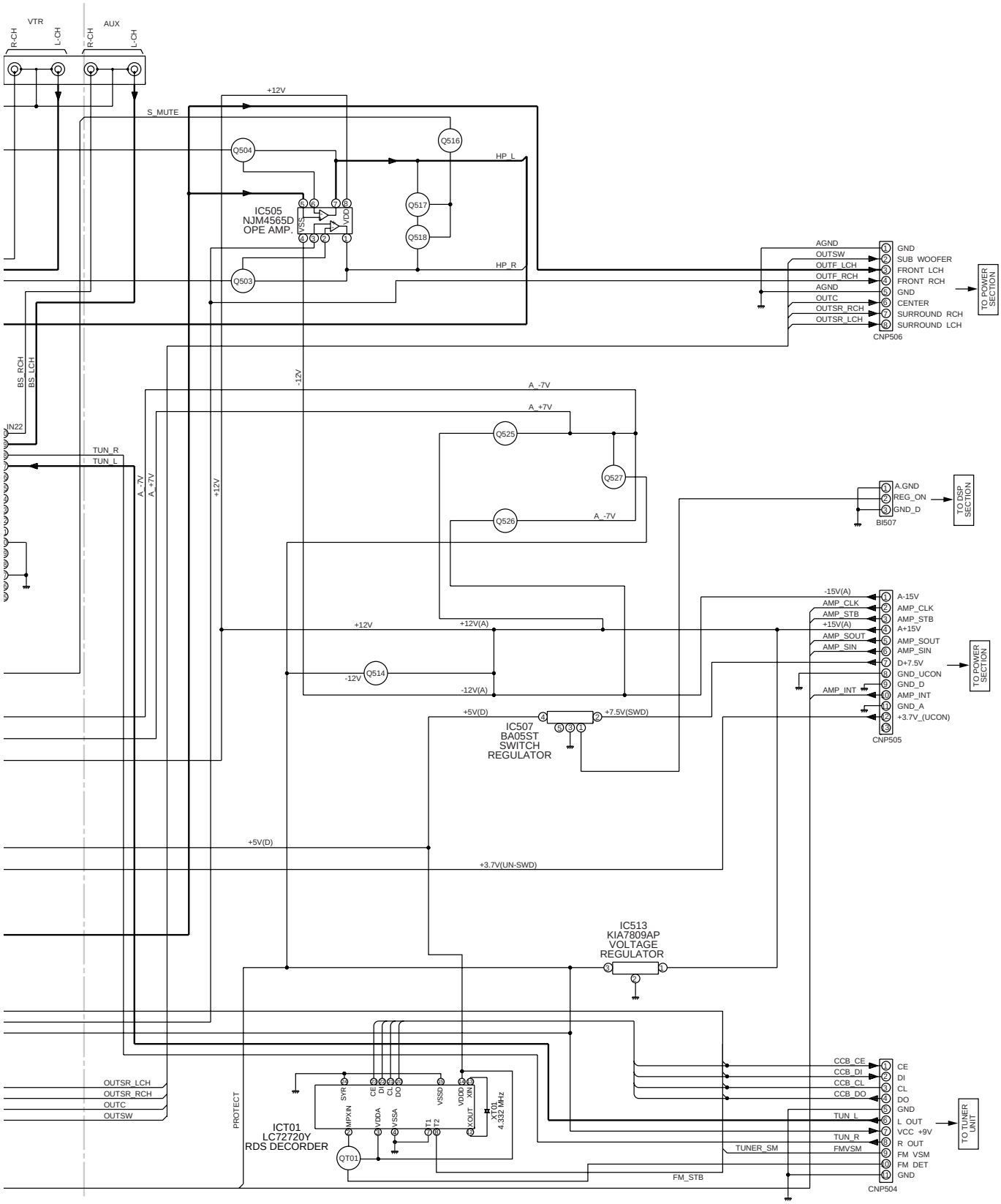


Figure 15 BLOCK DIAGRAM (5/9)

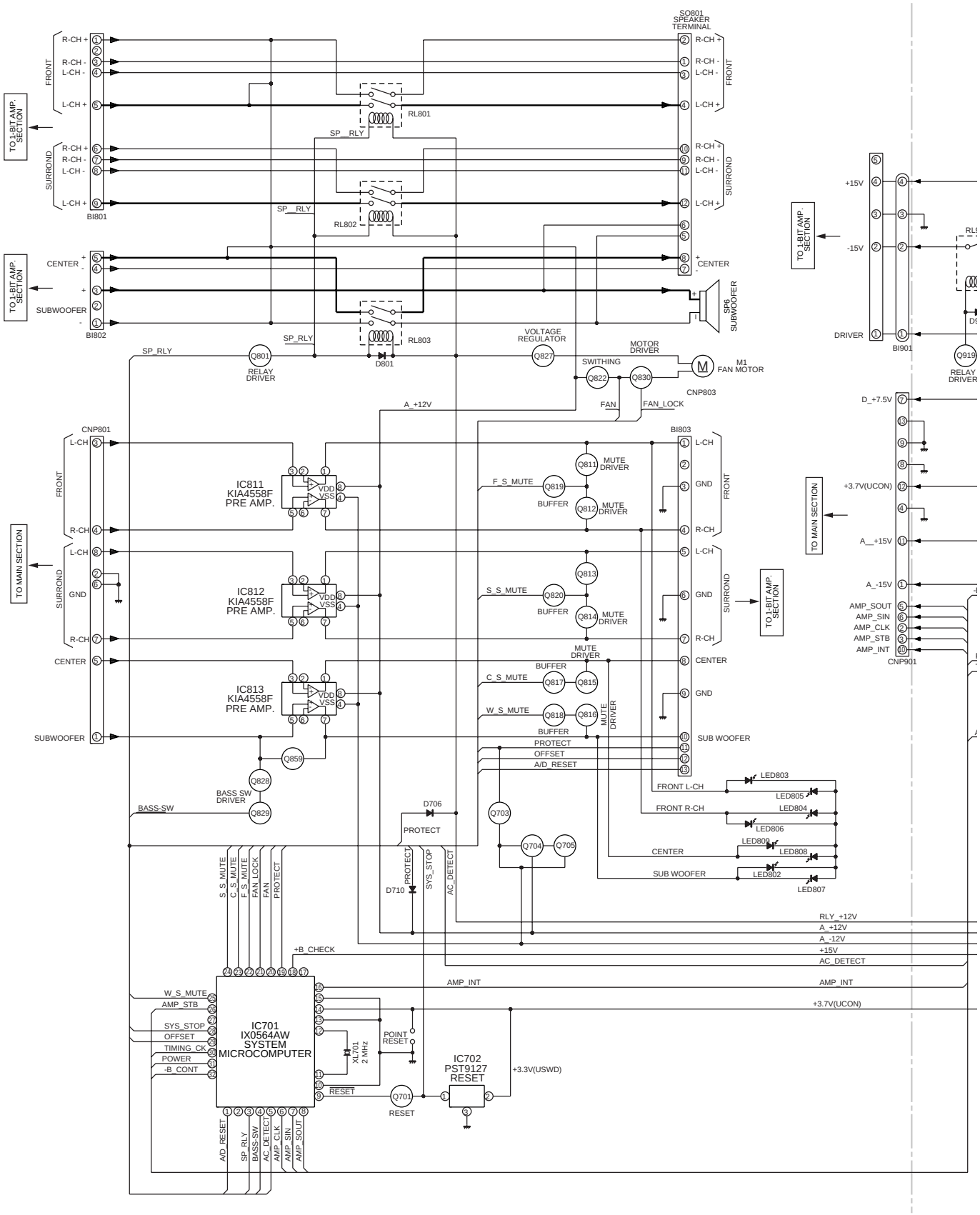


Figure 16 BLOCK DIAGRAM (6/9)

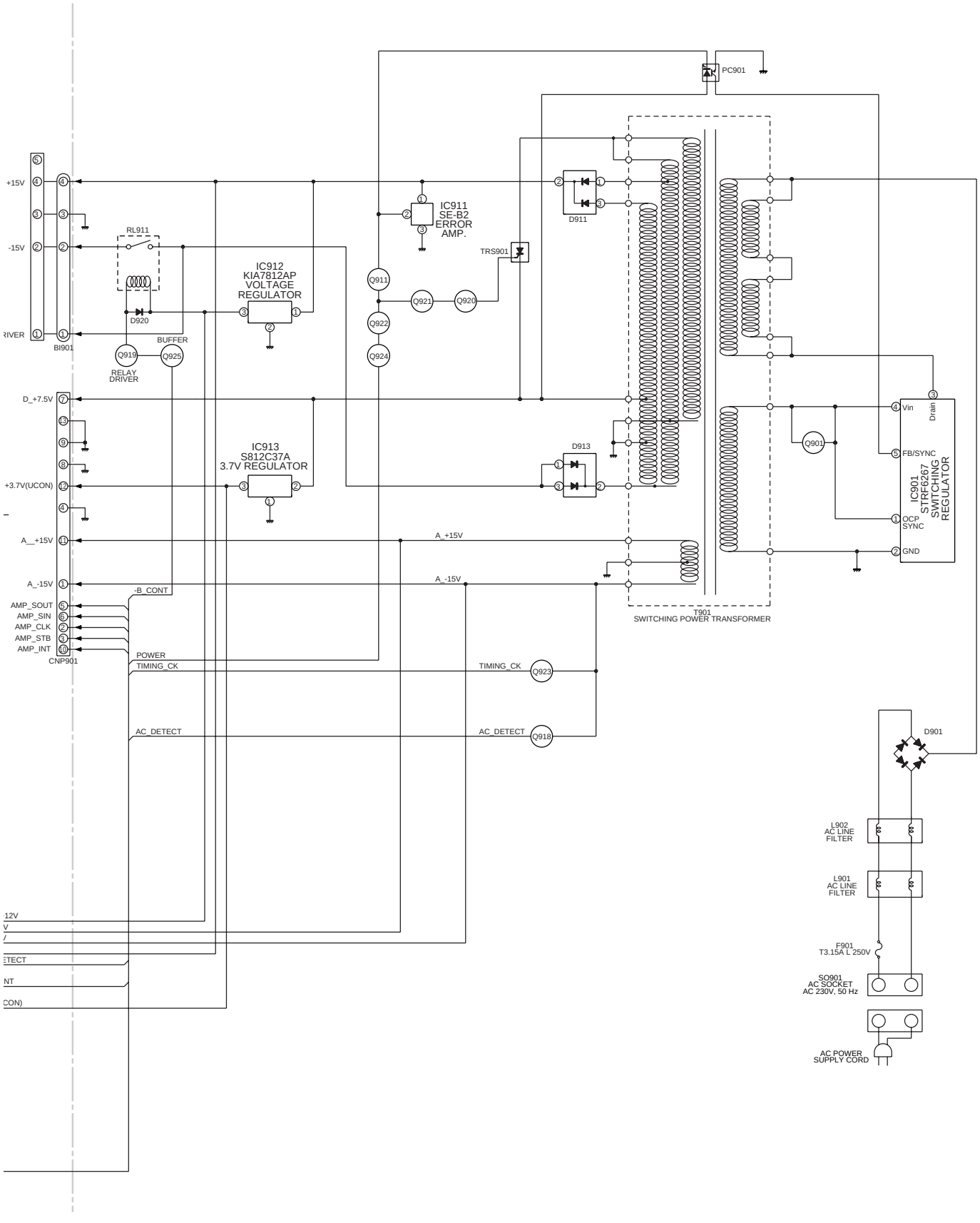


Figure 17 BLOCK DIAGRAM (7/9)

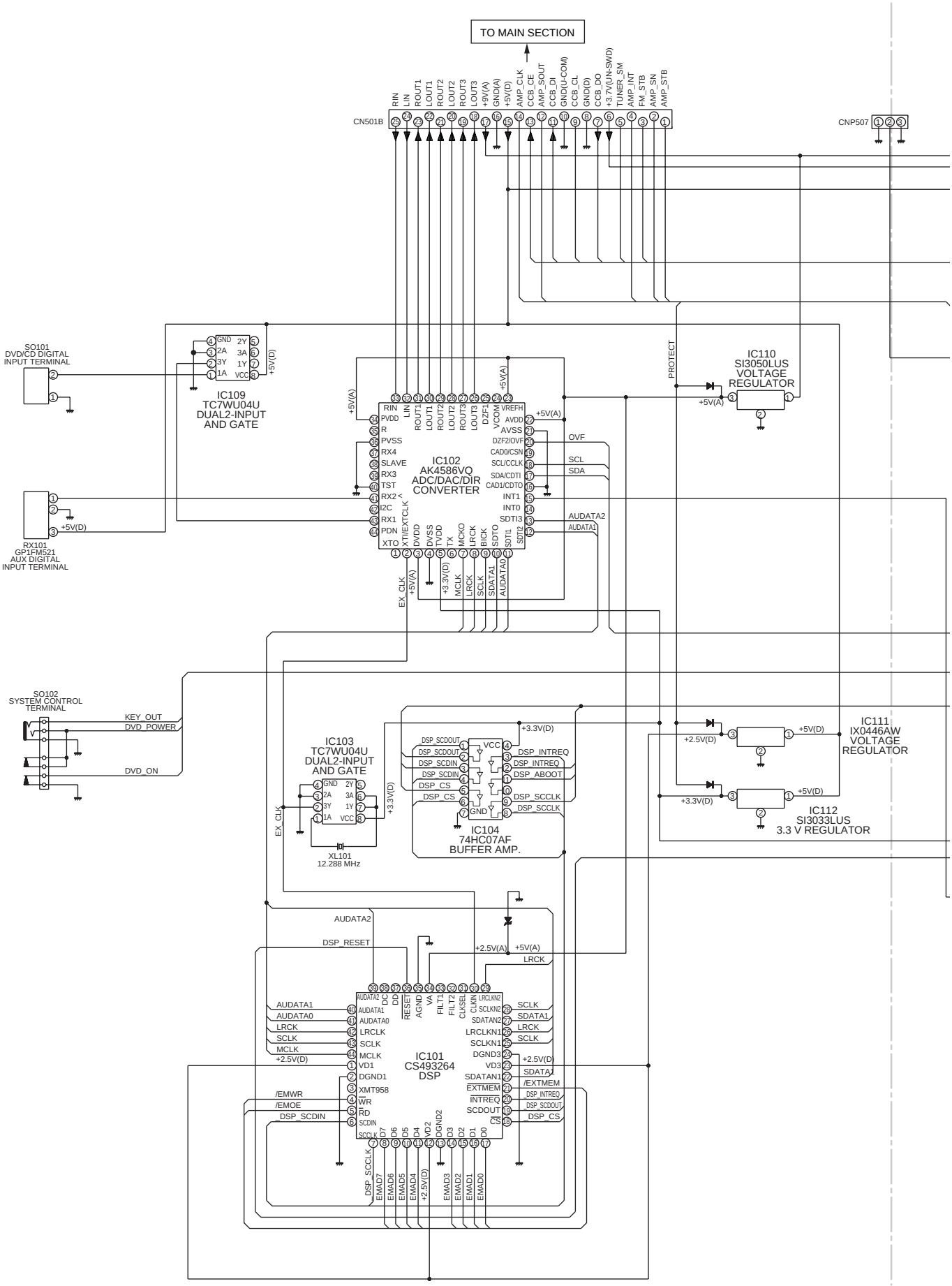


Figure 18 BLOCK DIAGRAM (8/9)

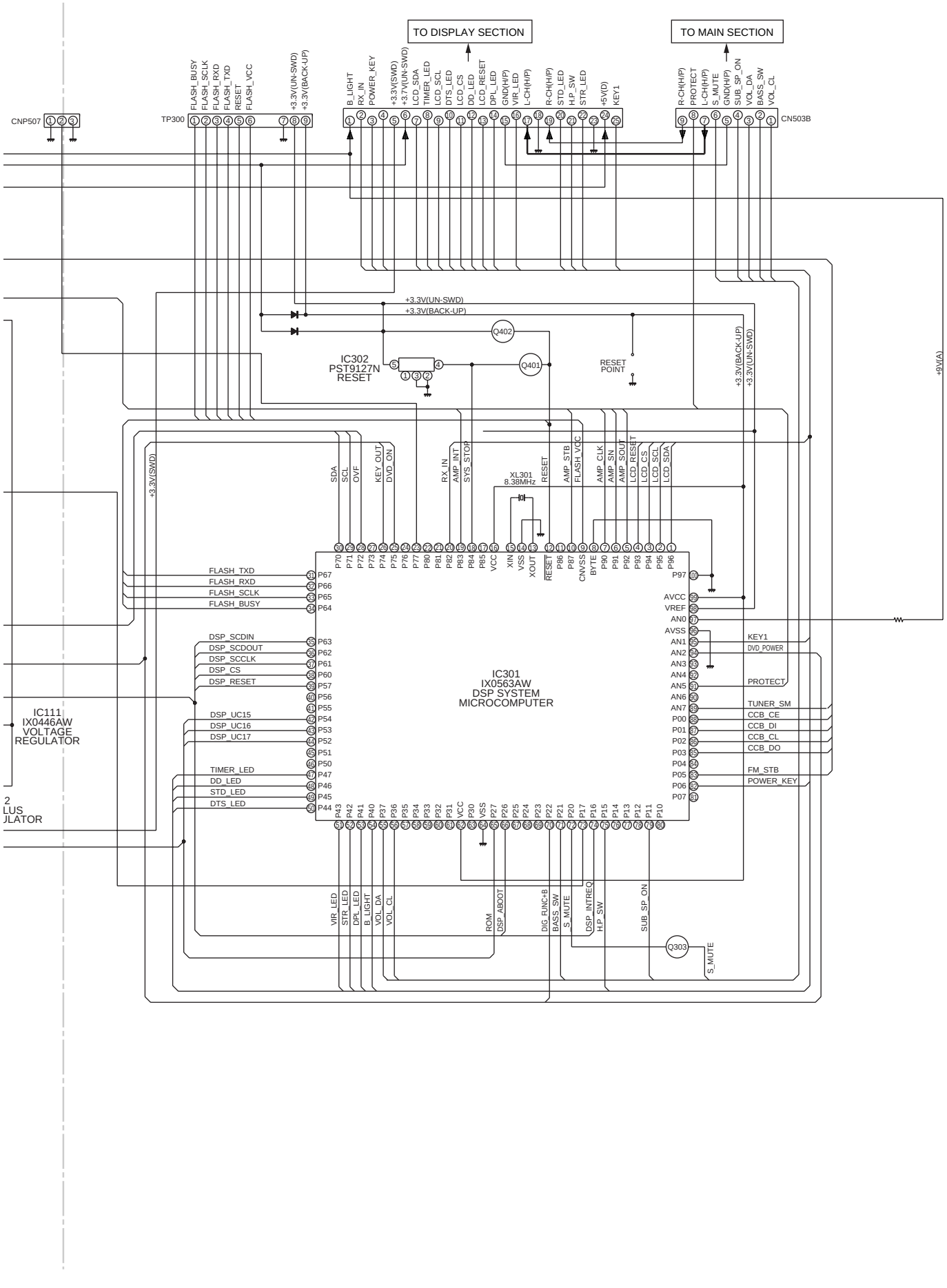


Figure 19 BLOCK DIAGRAM (9/9)

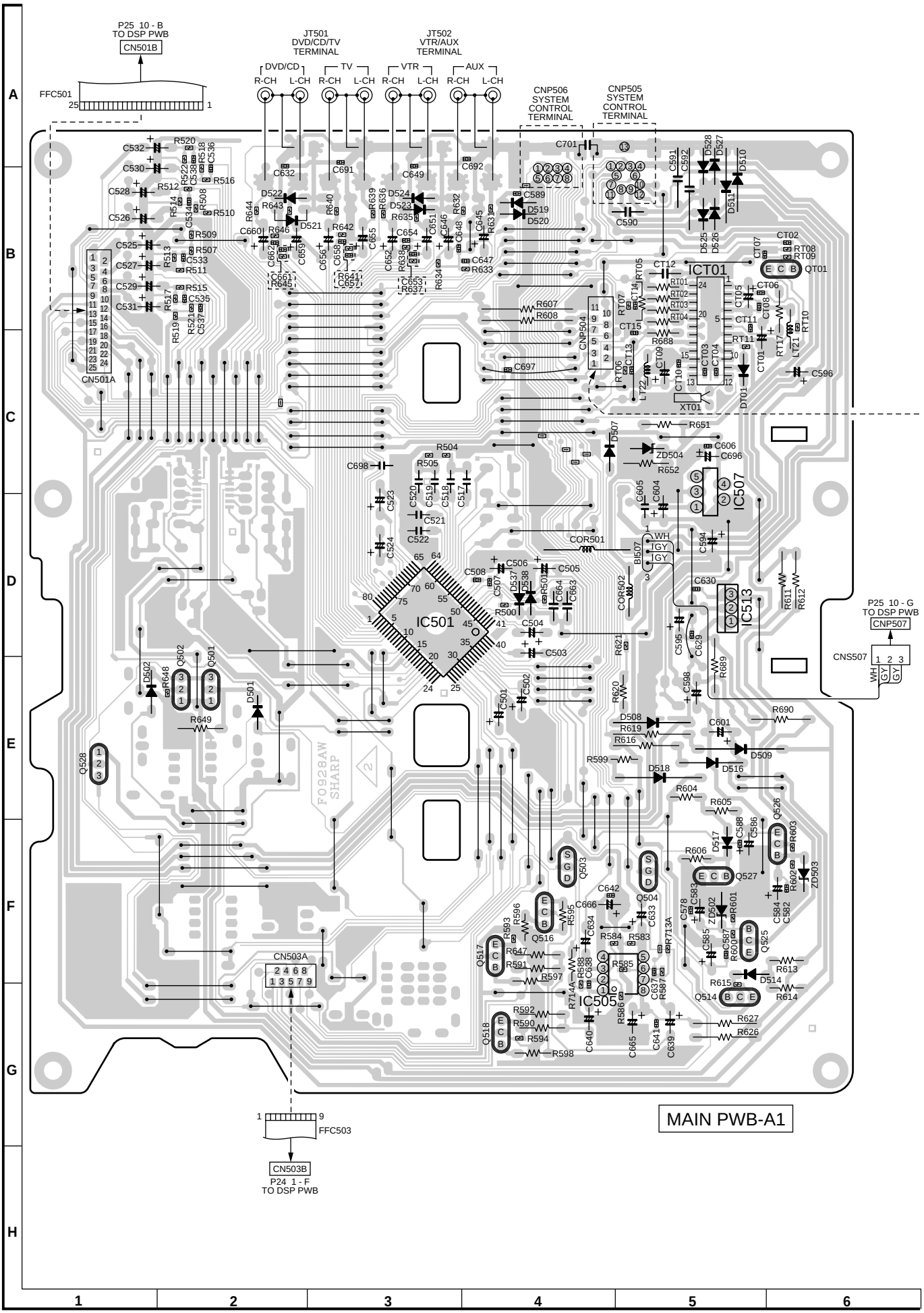
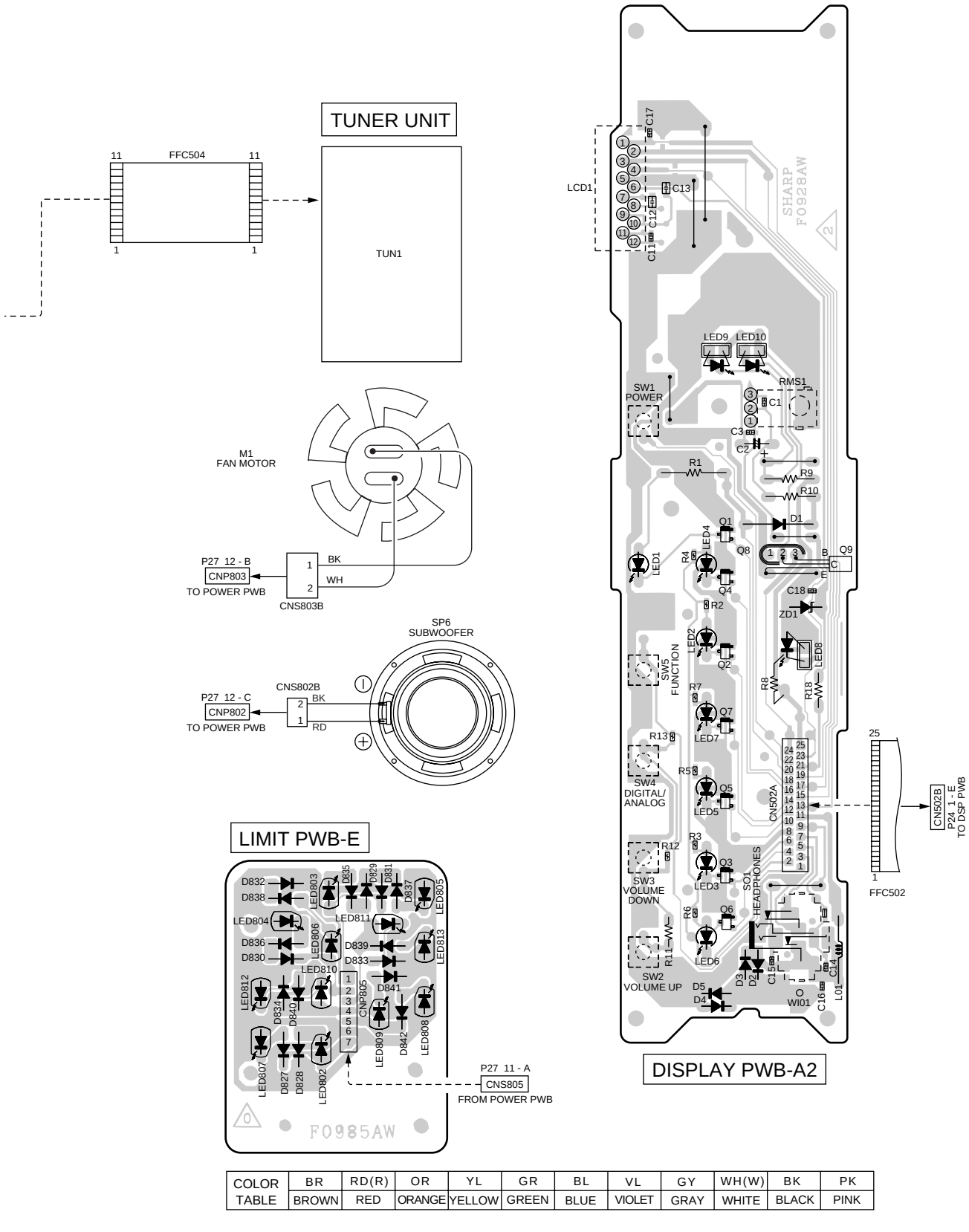


Figure 20 WIRING SIDE OF P.W.BOARD (1/10)



COLOR TABLE	BR	RD(R)	OR	YL	GR	BL	VL	GY	WH(W)	BK	PK
	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	VIOLET	GRAY	WHITE	BLACK	PINK

7	8	9	10	11	12

Figure 21 WIRING SIDE OF P.W.BOARD (2/10)

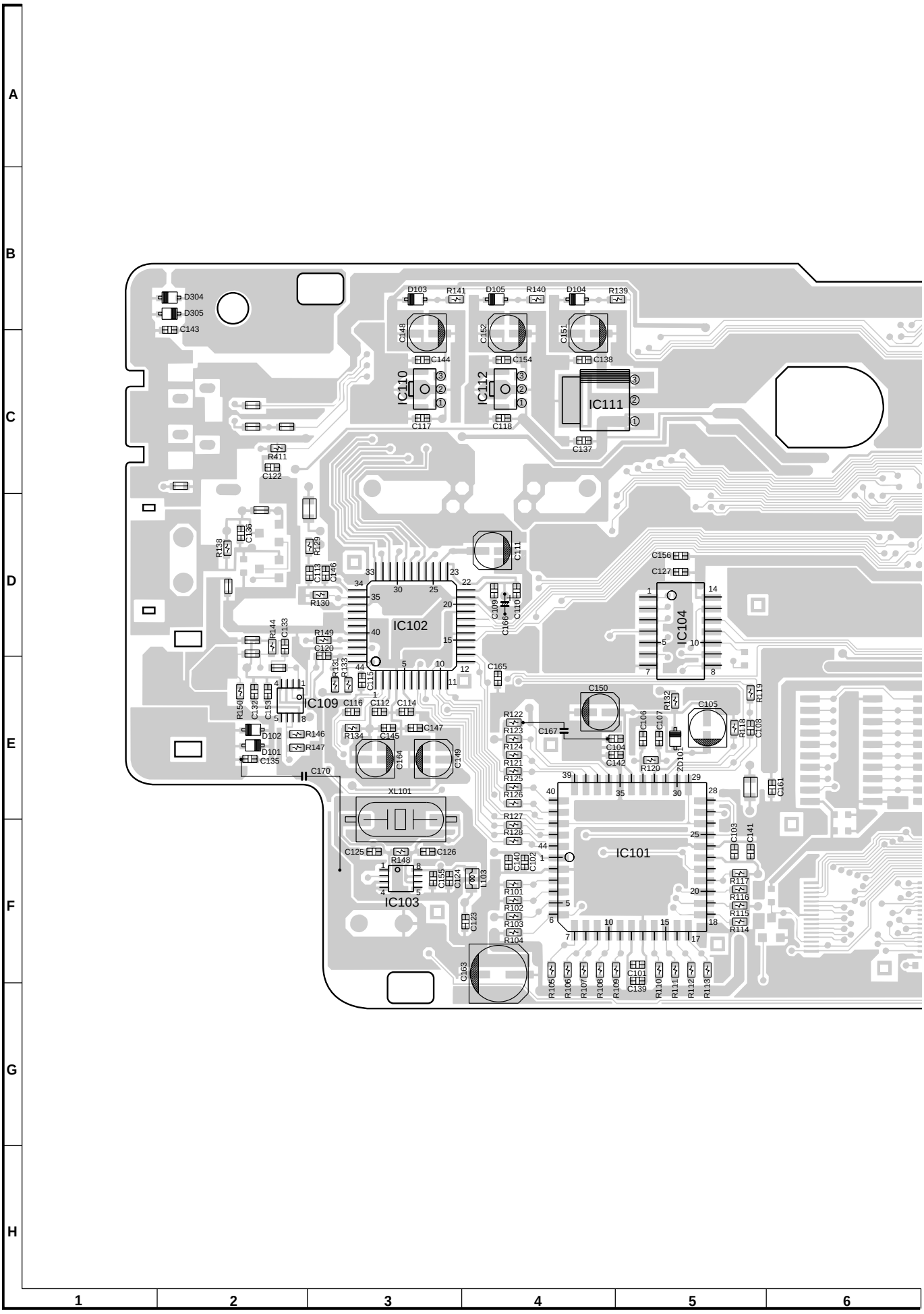
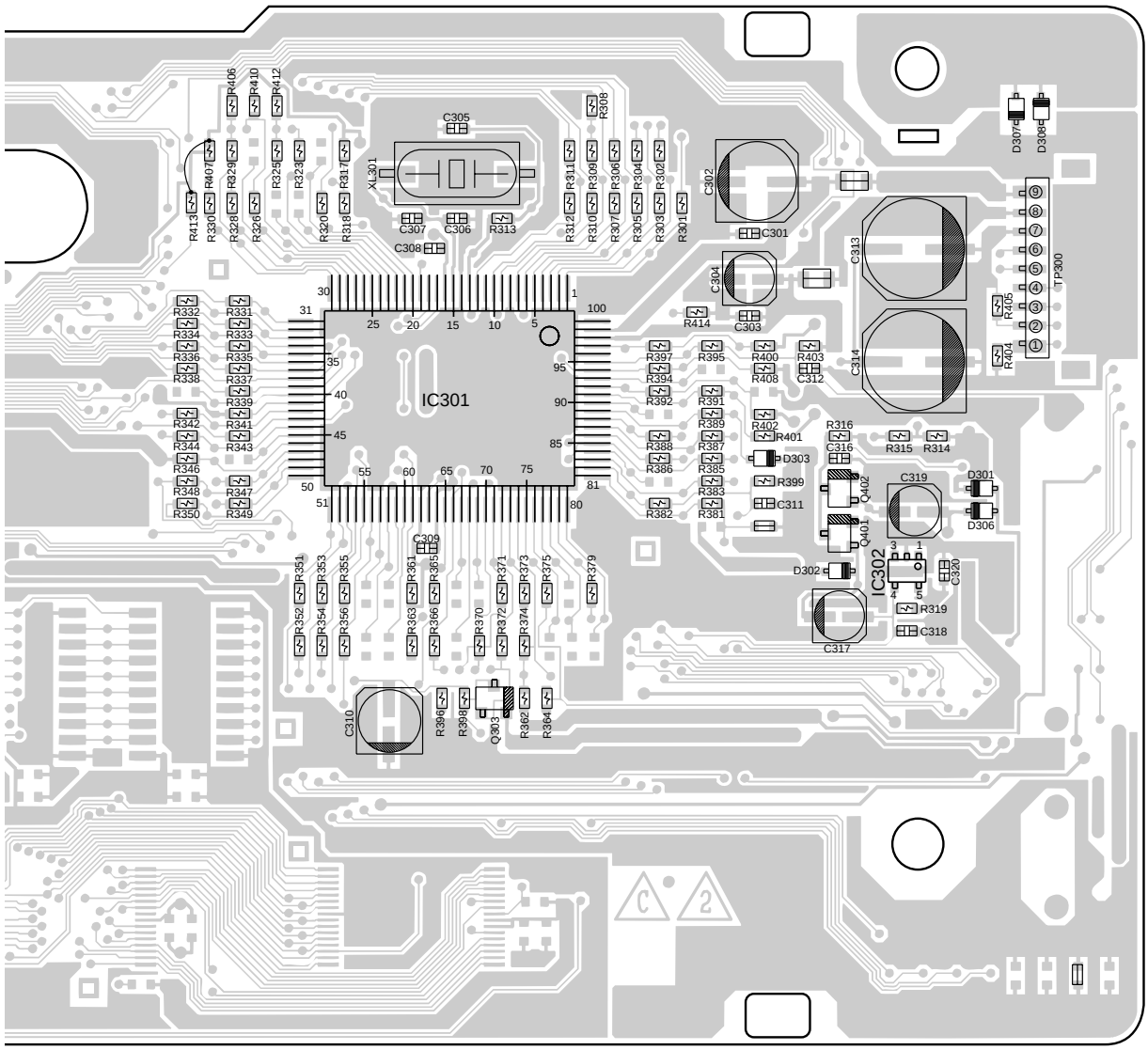


Figure 22 WIRING SIDE OF P.W.BOARD (3/10)



DSP PWB-B (TOP VIEW)

7	8	9	10	11	12

Figure 23 WIRING SIDE OF P.W.BOARD (4/10)

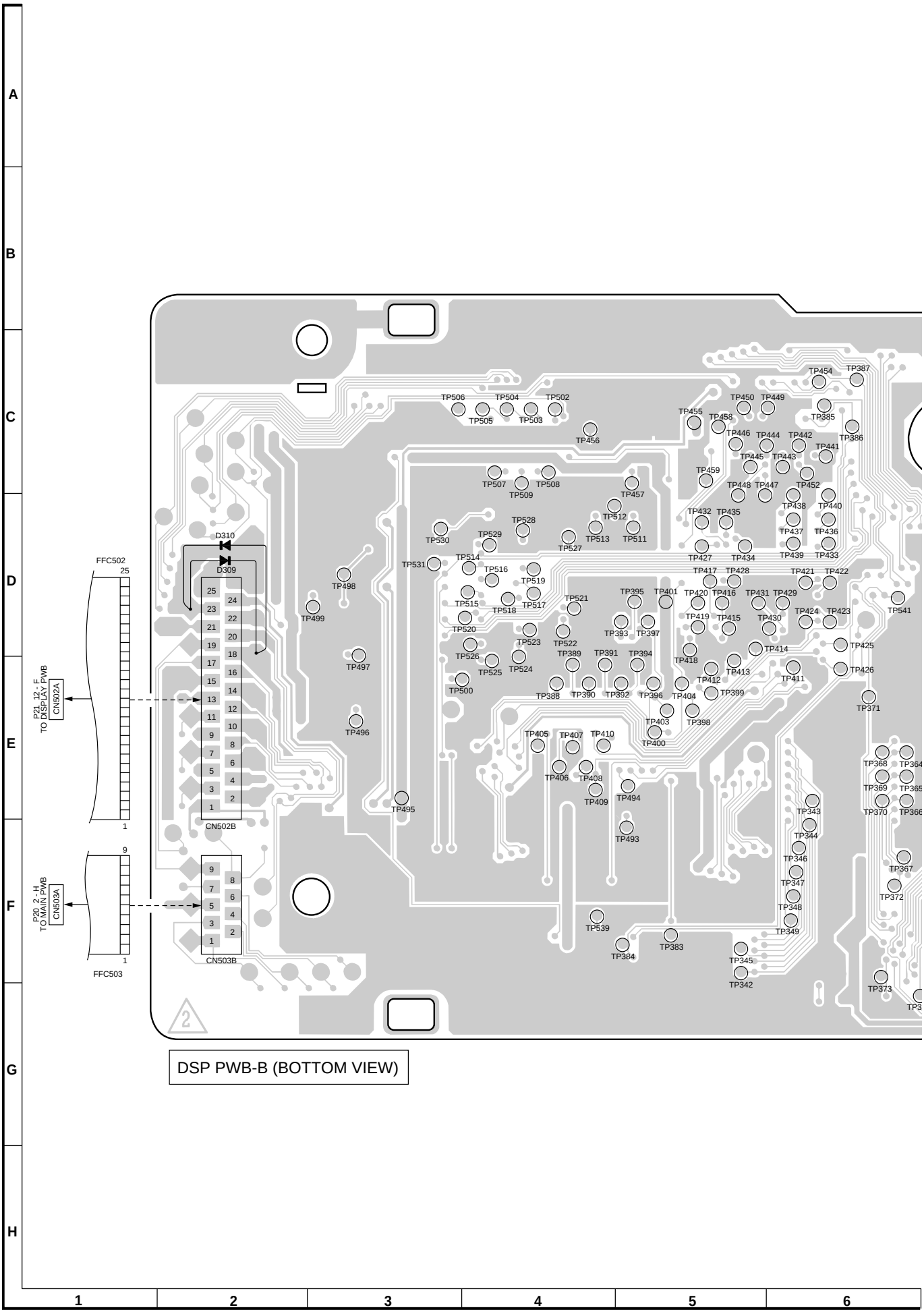
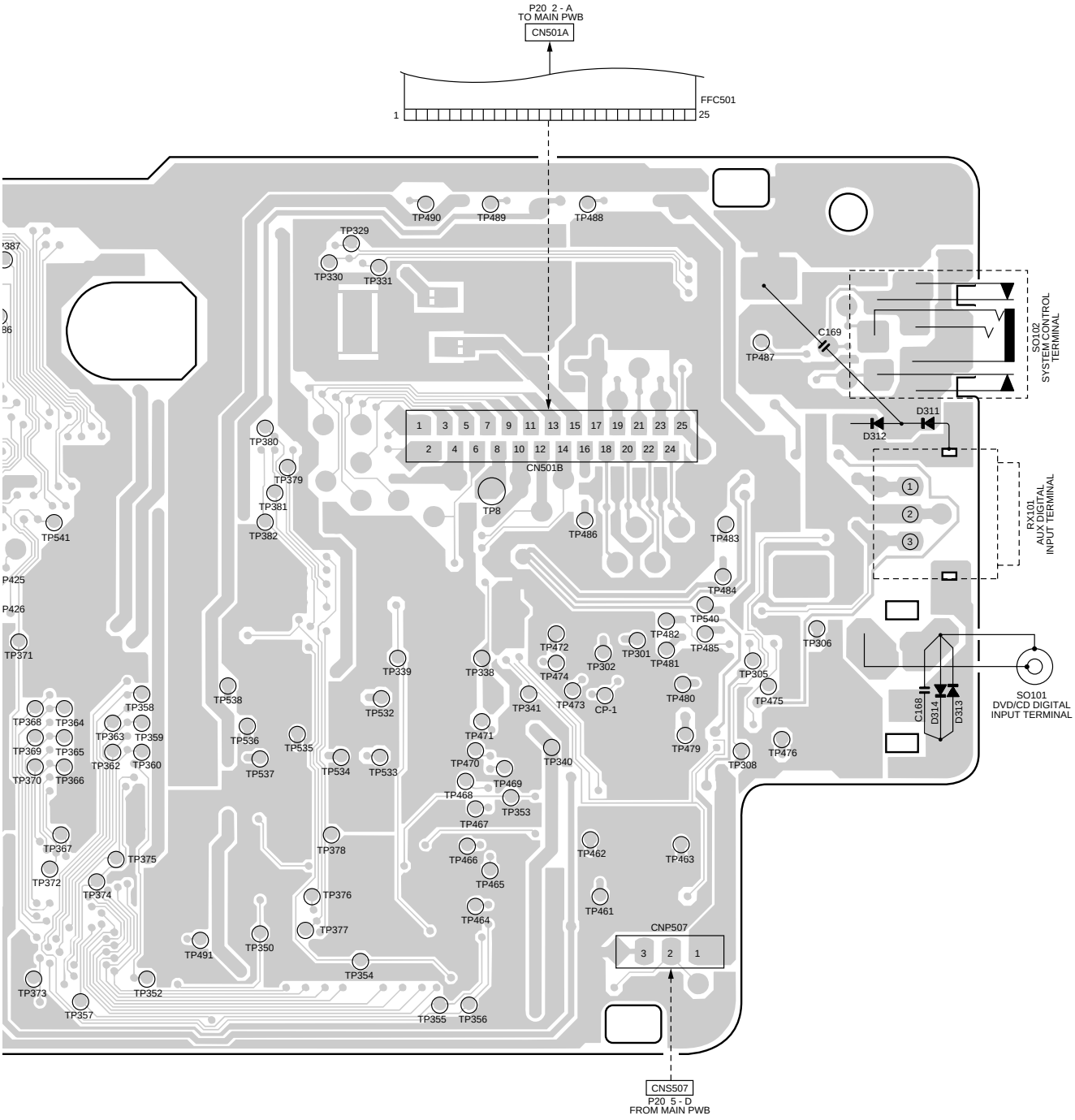


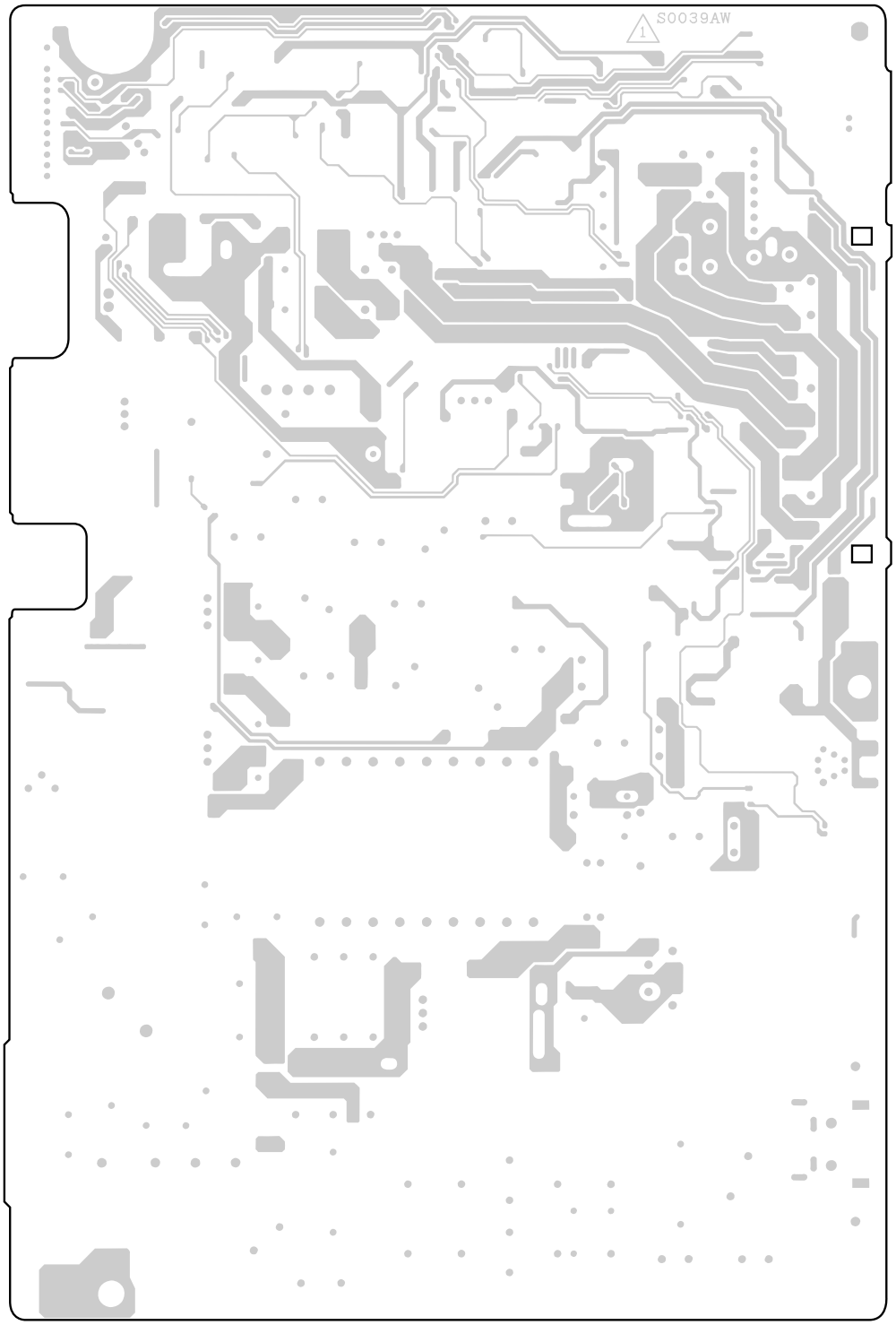
Figure 24 WIRING SIDE OF P.W.BOARD (5/10)



7	8	9	10	11	12

Figure 25 WIRING SIDE OF P.W.BOARD (6/10)

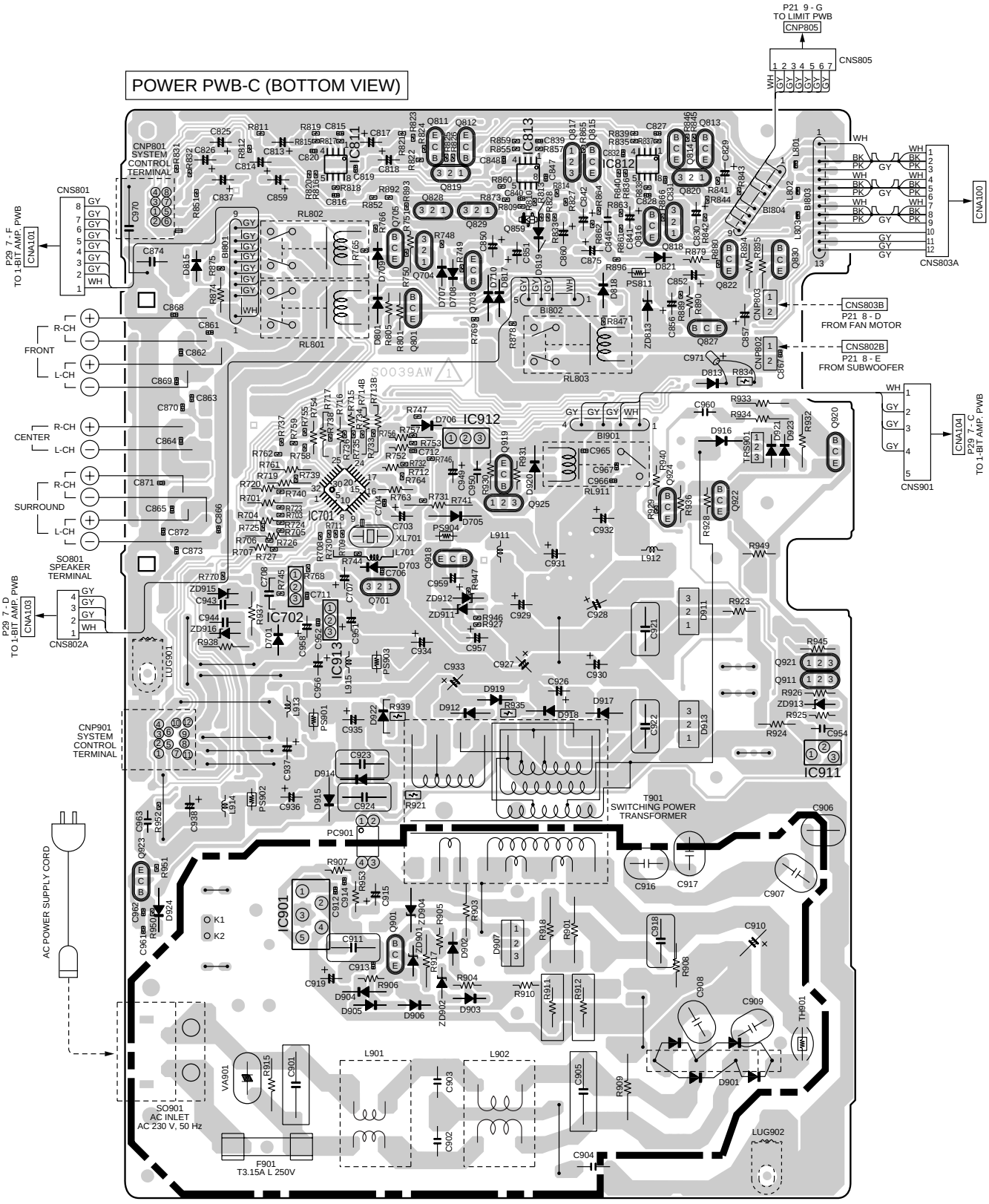
POWER PWB-C (TOP VIEW)



A B C D E F G H

1 2 3 4 5 6

Figure 26 WIRING SIDE OF P.W.BOARD (7/10)

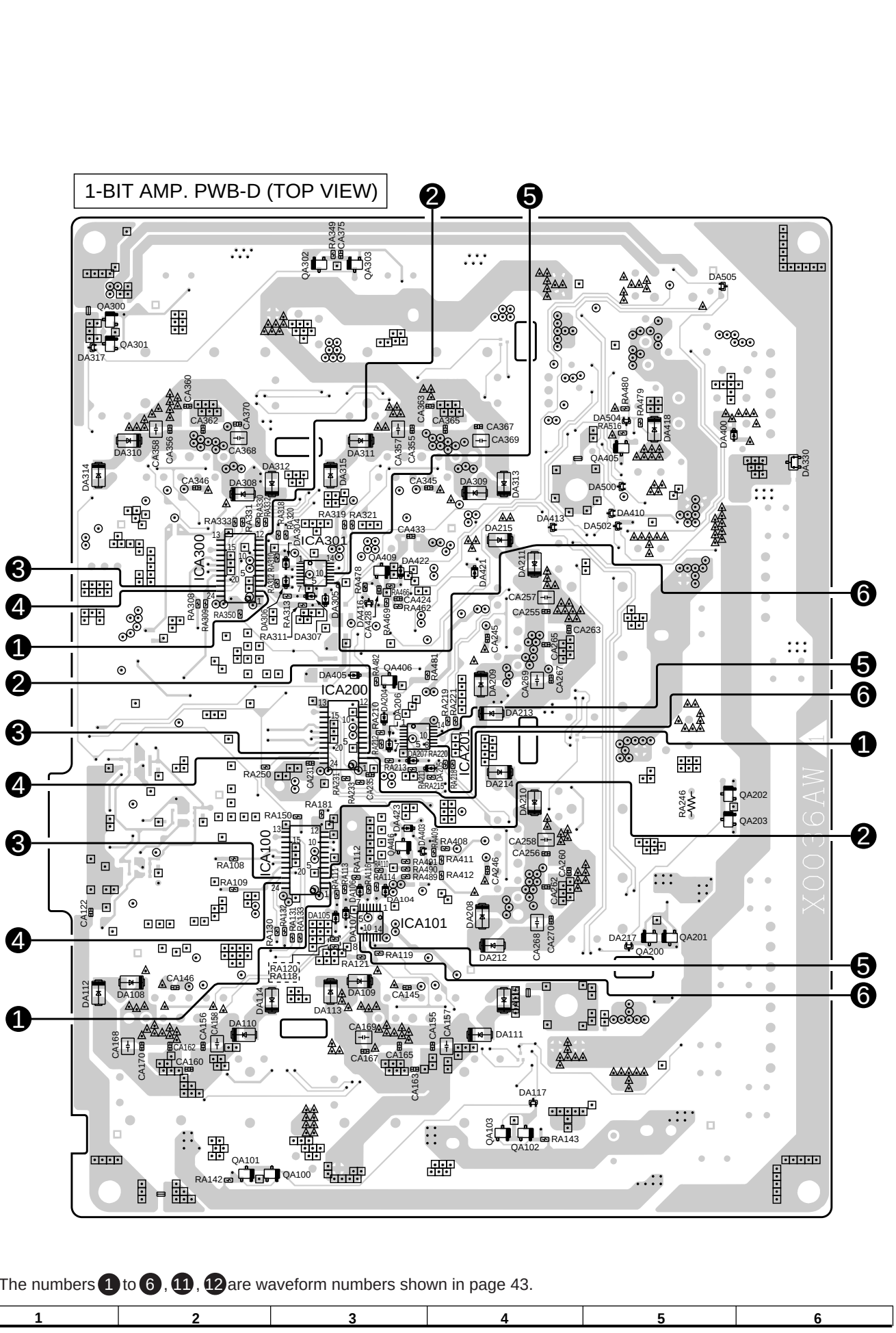


COLOR TABLE	BR	RD(R)	OR	YL	GR	BL	VL	GY	WH(W)	BK	PK
	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	VIOLET	GRAY	WHITE	BLACK	PINK

When Servicing, pay attention as the area enclosed by this line (▬ ▪ ▬) is directly connected with AC main voltage.

7	8	9	10	11	12

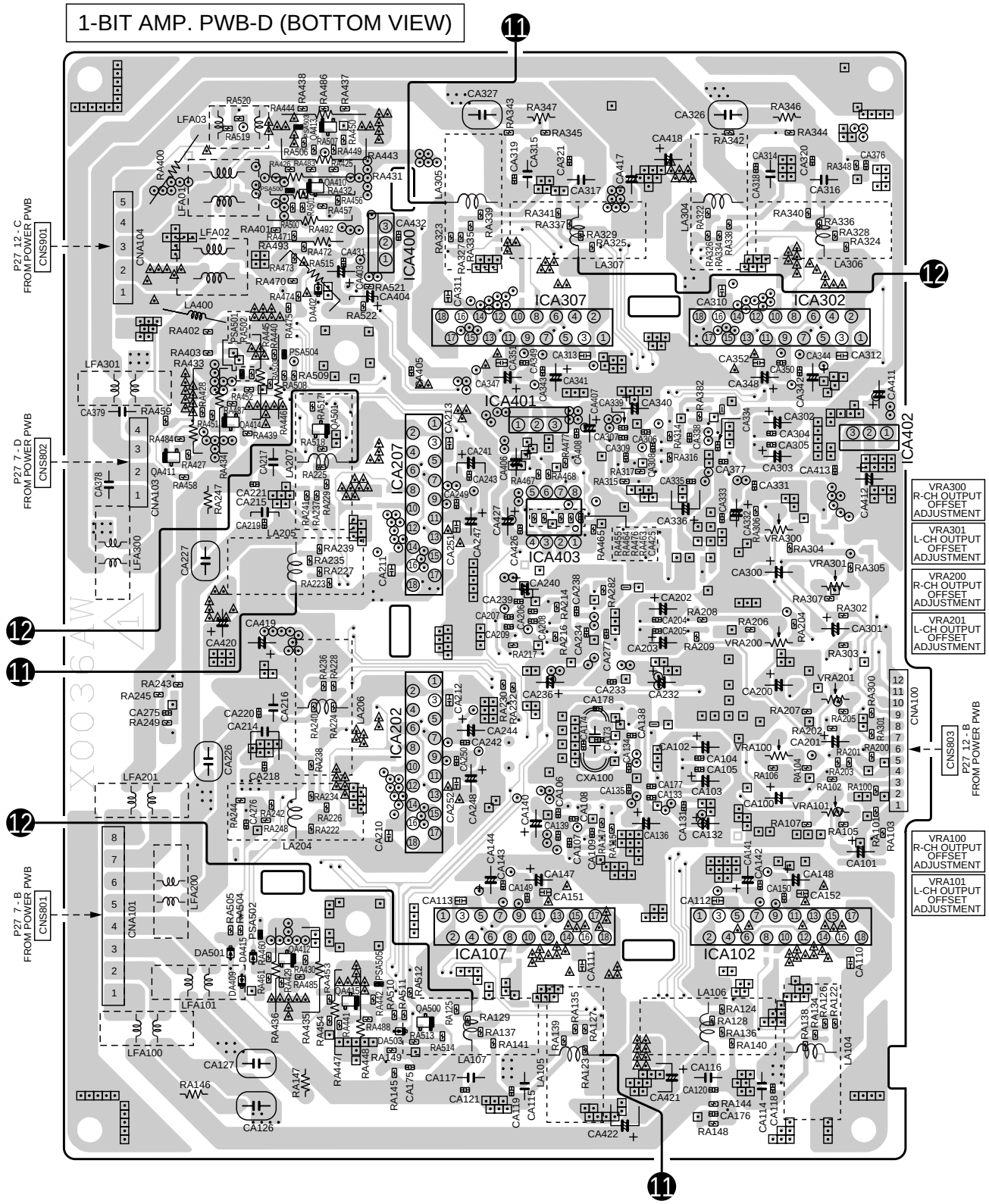
Figure 27 WIRING SIDE OF P.W.BOARD (8/10)



• The numbers ❶ to ❻, ⓫, ⓬ are waveform numbers shown in page 43.

Figure 28 WIRING SIDE OF P.W.BOARD (9/10)

⊙ Through-hole where the top, bottom and +B patterns are connected.
⊡ Through-hole where the top, bottom and ground patterns are connected.
• Through-hole where the top, and bottom patterns are connected.
◬ Through-hole where the top, and bottom -B patterns are connected.



7	8	9	10	11	12

Figure 29 WIRING SIDE OF P.W.BOARD (10/10)

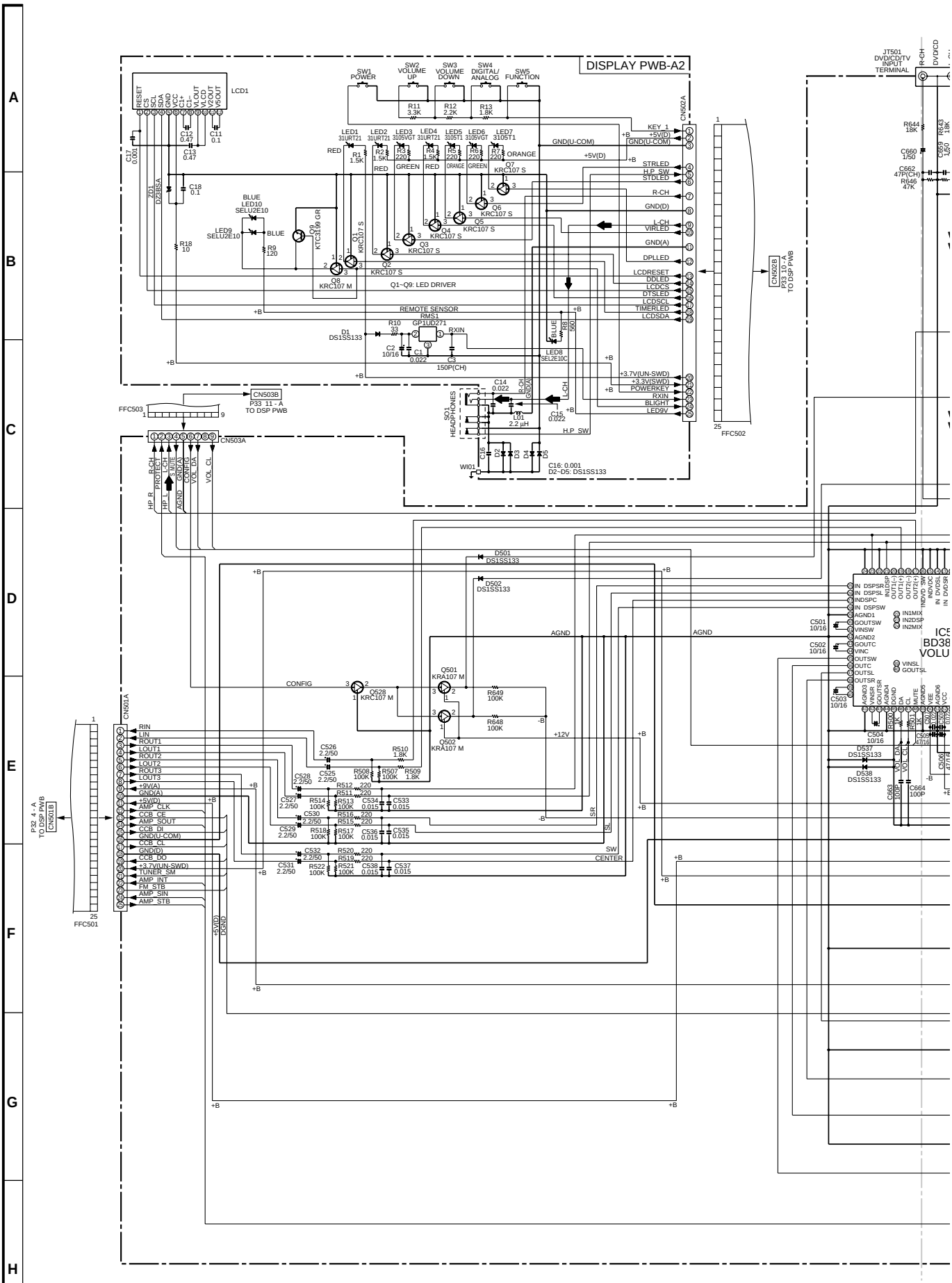
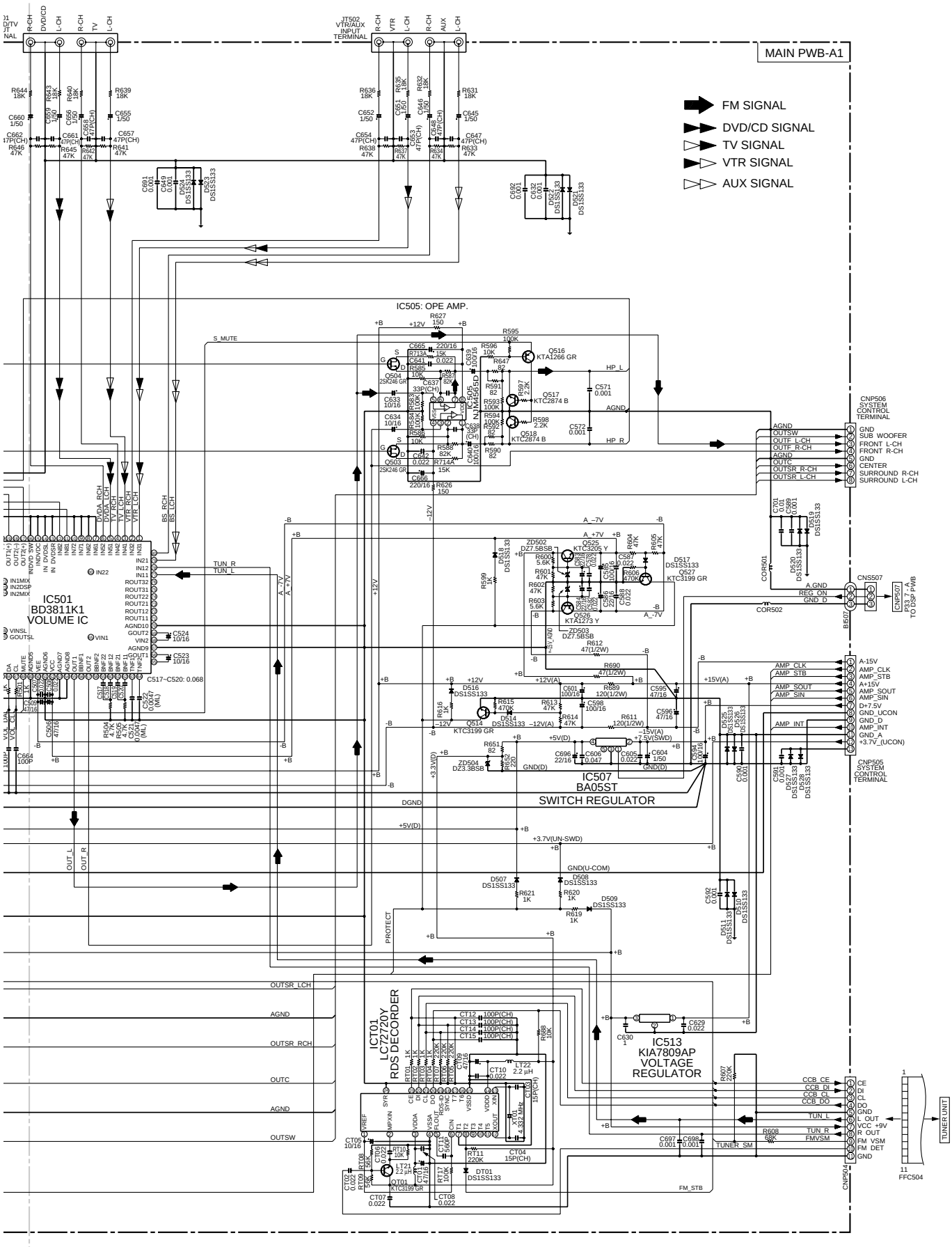
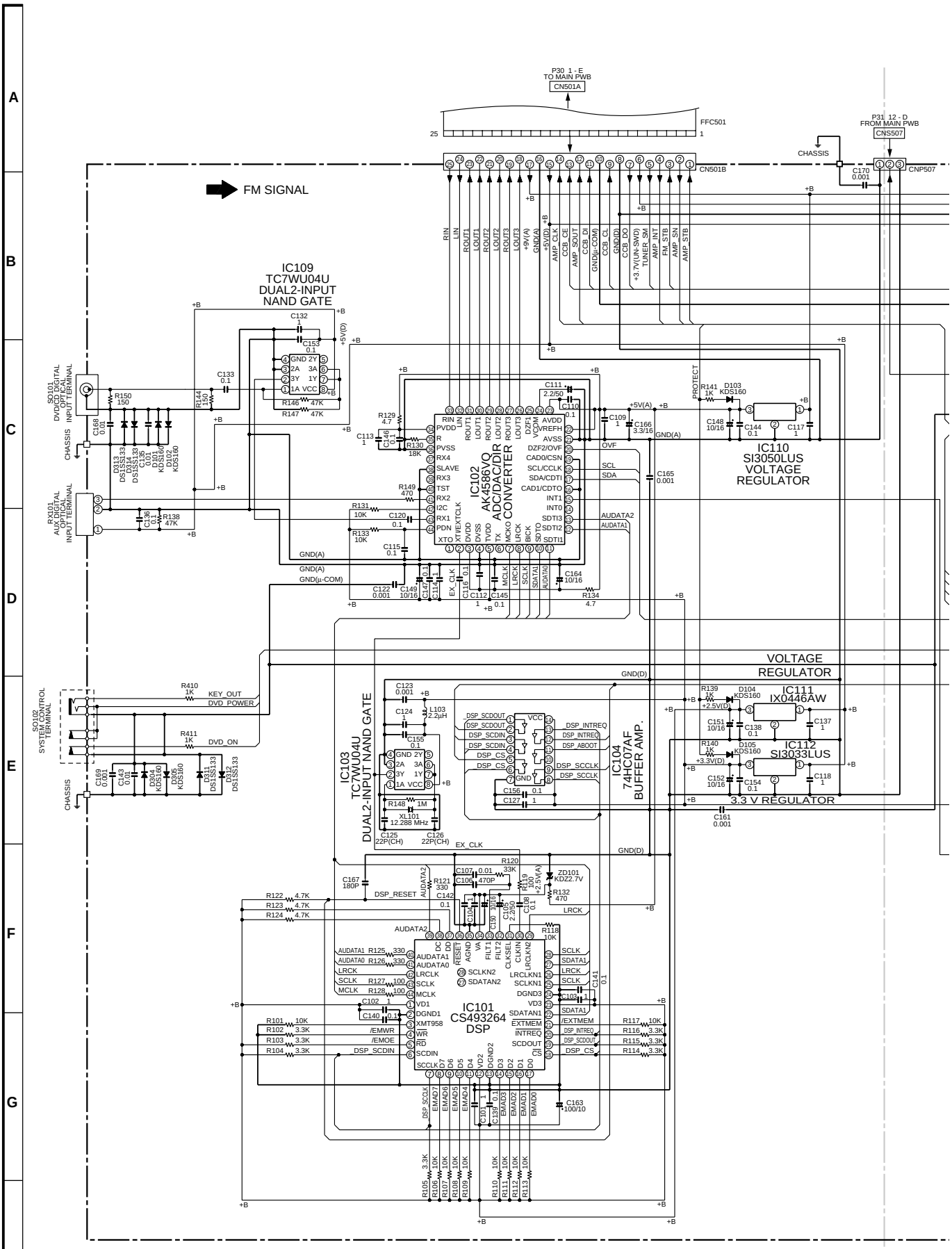


Figure 30 SCHEMATIC DIAGRAM (1/11)



7	8	9	10	11	12

Figure 31 SCHEMATIC DIAGRAM (2/11)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 42.

Figure 32 SCHEMATIC DIAGRAM (3/11)

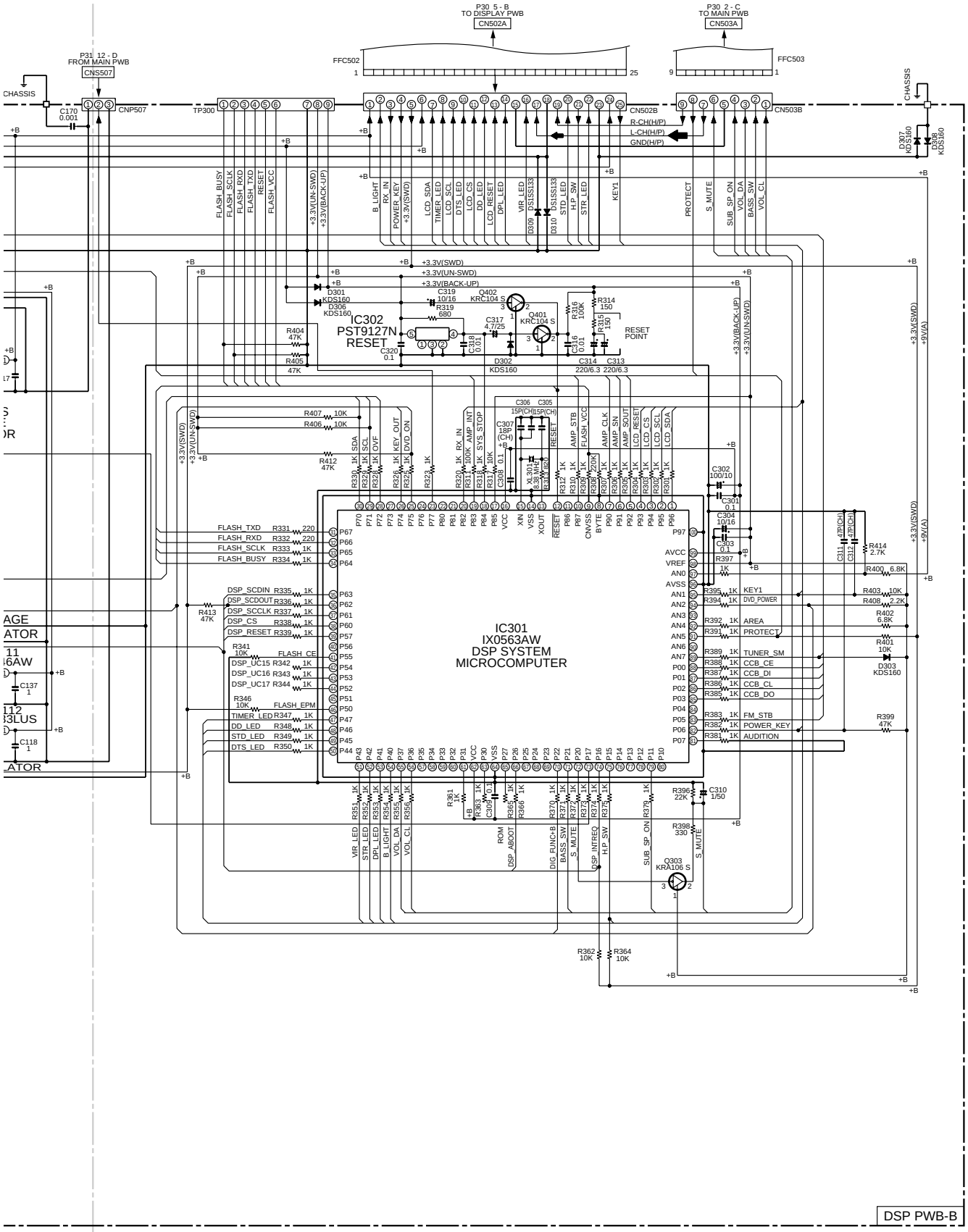
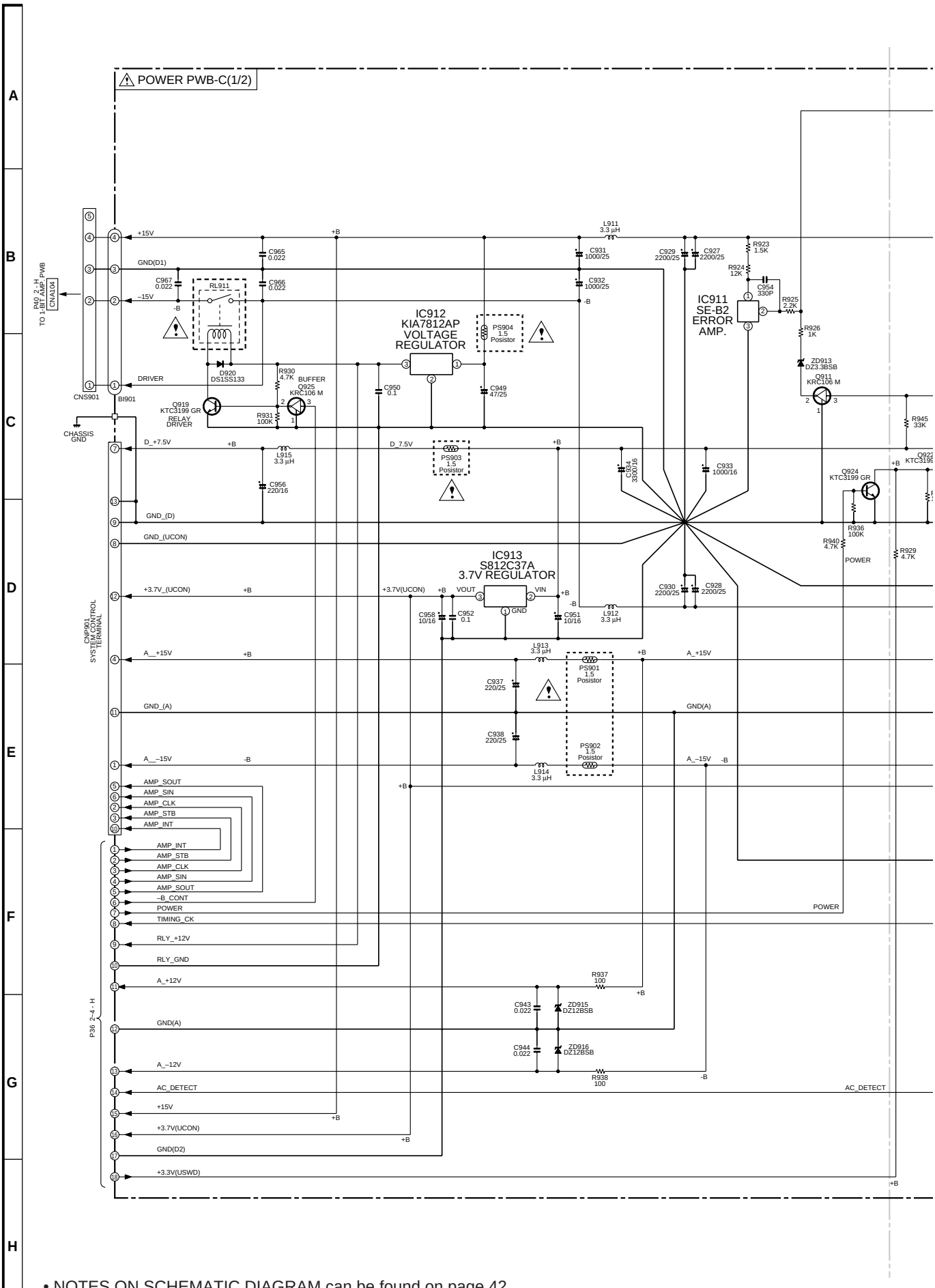
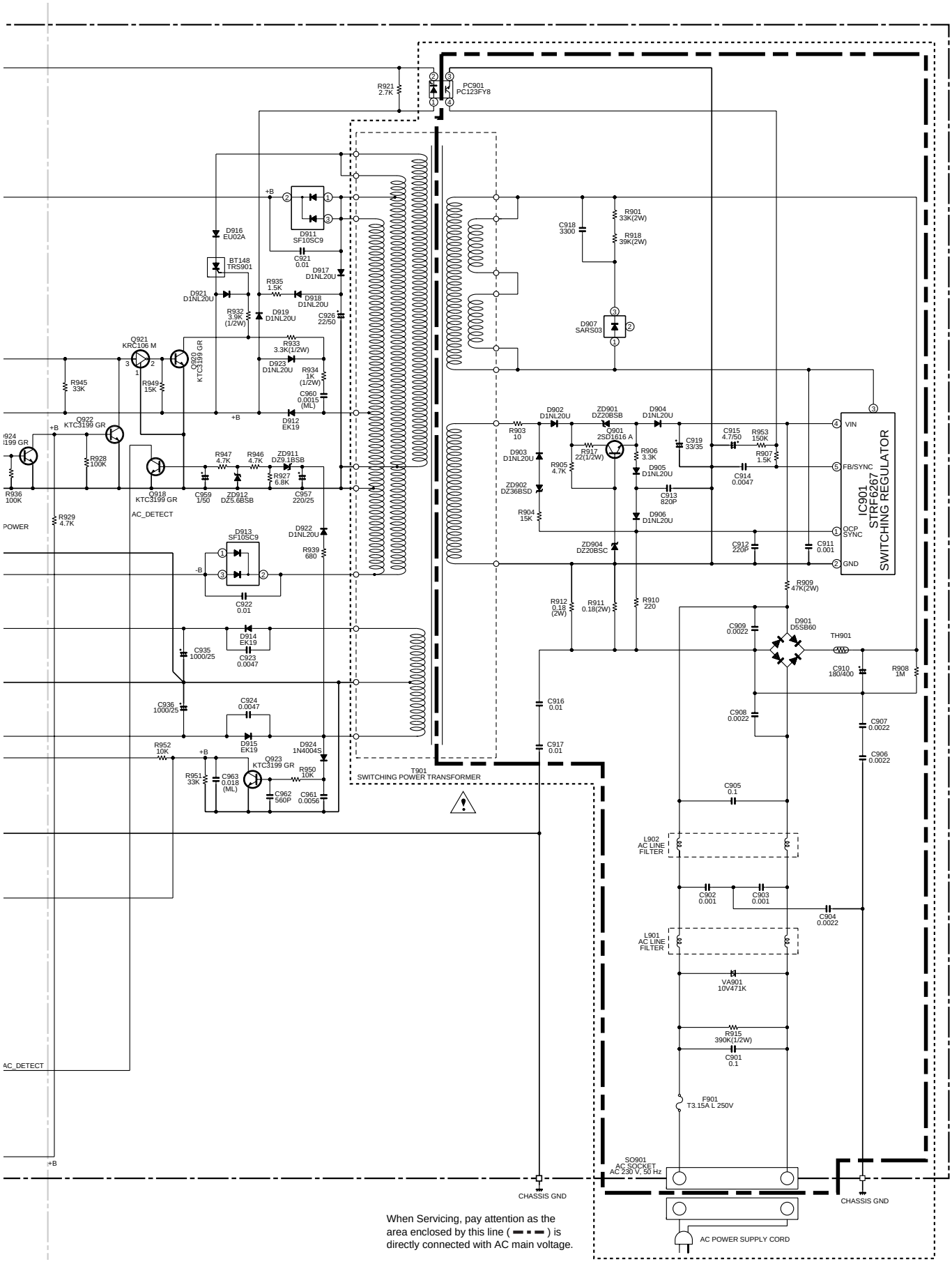


Figure 33 SCHEMATIC DIAGRAM (4/11)



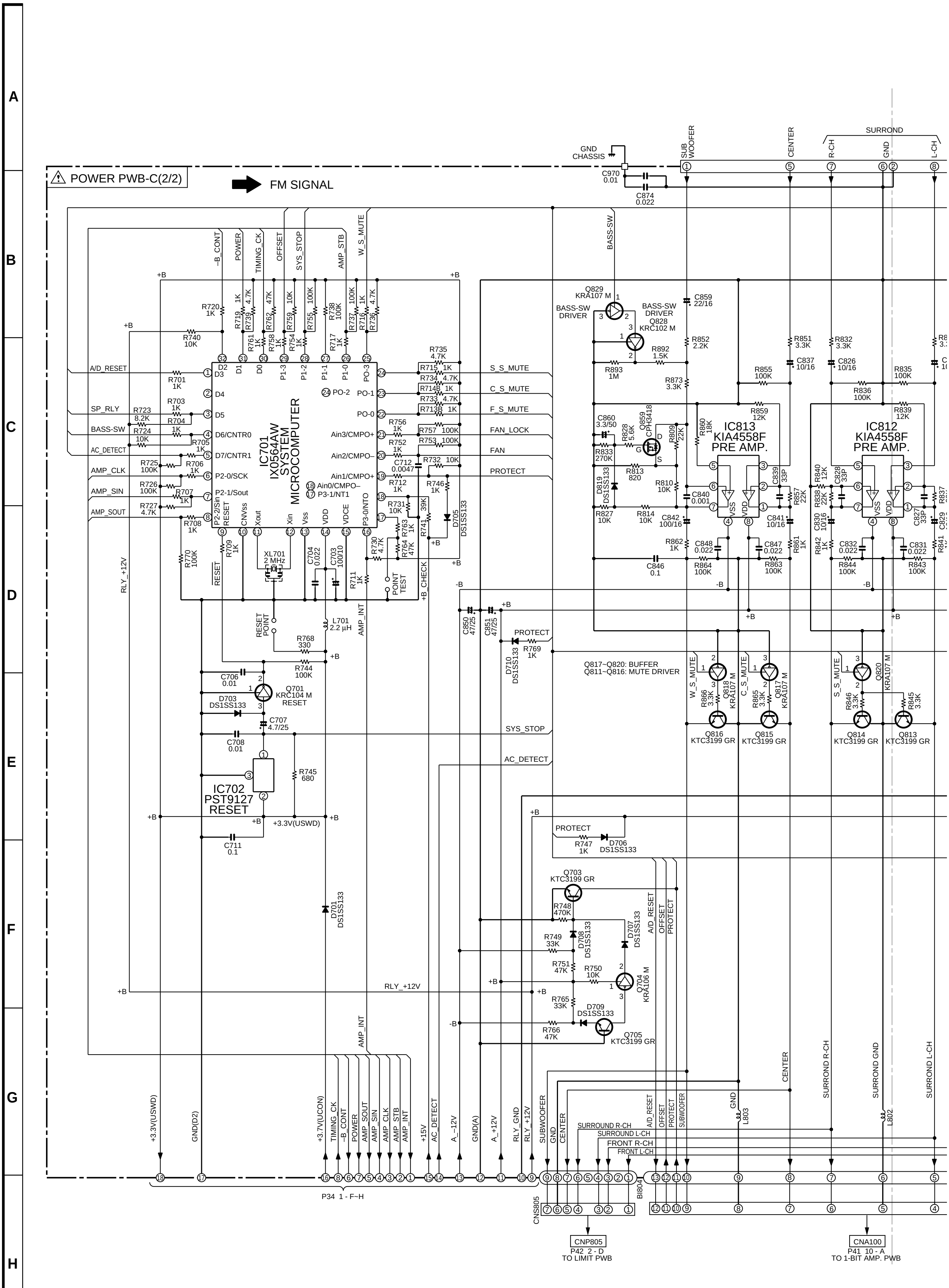
• NOTES ON SCHEMATIC DIAGRAM can be found on page 42.

Figure 34 SCHEMATIC DIAGRAM (5/11)



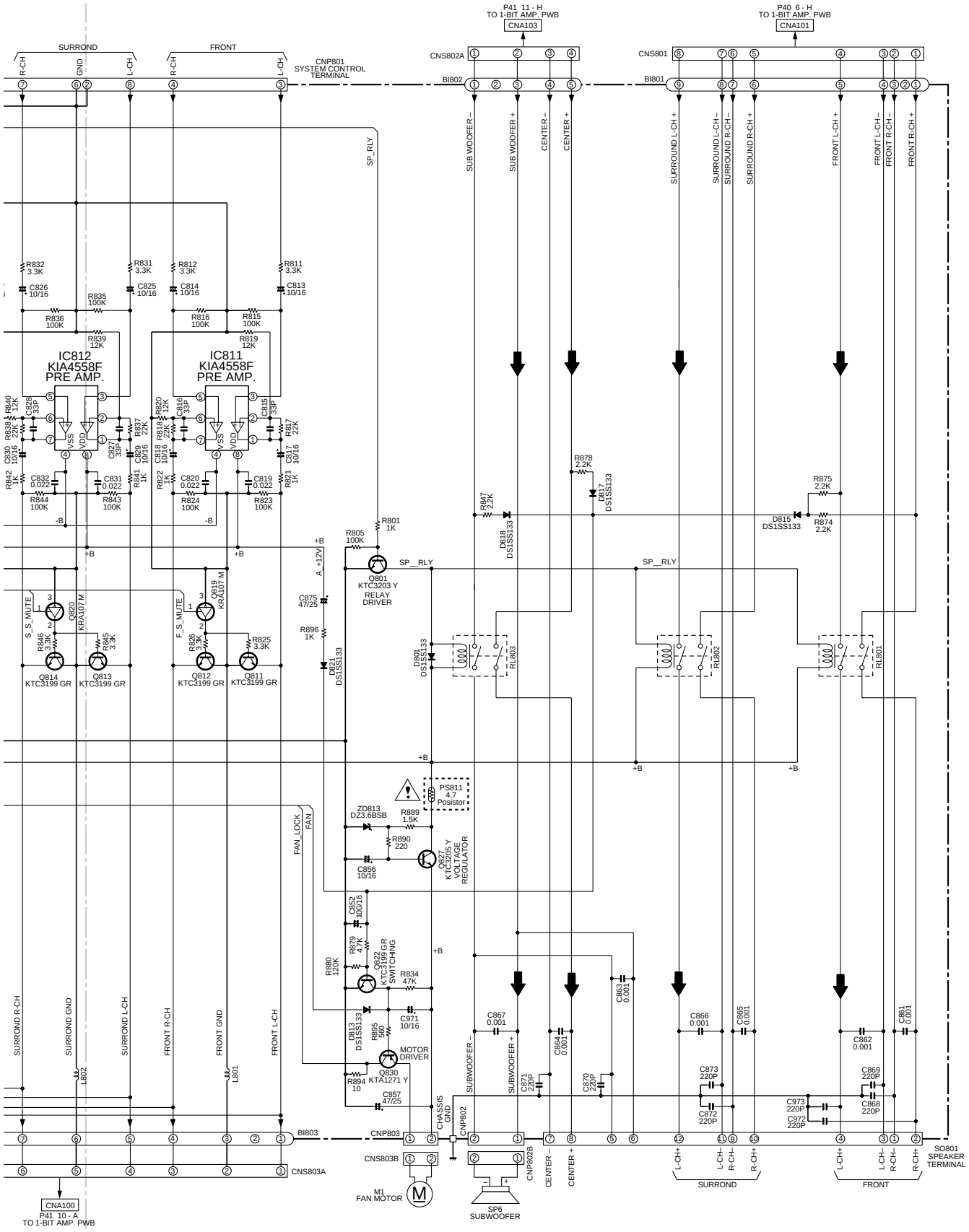
7	8	9	10	11	12

Figure 35 SCHEMATIC DIAGRAM (6/11)


POWER PWB-C(2/2)
FM SIGNAL
GND CHASSIS
SUB WOOFER
CENTER
SURROND
R-CH
GND
L-CH
C970 0.01
C874 0.022
IC701 IX0564AW SYSTEM MICROCOMPUTER
IC702 PST9127 RESET
IC813 KIA4558F PRE AMP.
IC812 KIA4558F PRE AMP.
Q829 KRA107 M BASS-SW DRIVER
Q828 KRC102 M BASS-SW DRIVER
Q859 CPH3418
Q701 KRC104 M RESET
XL701 2 MHz
L701 2.2 µH
Q817~Q820: BUFFER
Q811~Q816: MUTE DRIVER
Q816 KTC3199 GR
Q815 KTC3199 GR
Q814 KTC3199 GR
Q813 KTC3199 GR
Q818 KRA107 M
Q817 KRA107 M
Q820 KRA107 M
Q703 KTC3199 GR
Q704 KRA106 M
Q705 KTC3199 GR
A/D_RESET
SP_RLY
BASS-SW
AC_DETECT
AMP_CLK
AMP_SIN
AMP_SOUT
S_S_MUTE
C_S_MUTE
F_S_MUTE
FAN_LOCK
FAN
PROTECT
SYS_STOP
RLY_+12V
+3.3V(USWD)
GND(D2)
+3.7V(UCON)
TIMING_CK
–B_CONT
POWER
AMP_STB
AMP_INT
+15V
A_–12V
GND(A)
A_+12V
RLY_GND
SUBWOOFER
OFFSET
SURROUND R-CH
SURROUND L-CH
FRONT R-CH
FRONT L-CH
SURROND GND
P34 1 - F~H
CNS805
BI804
CNP805
P42 2 - D
TO LIMIT PWB
CNA100
P41 10 - A
TO 1-BIT AMP. PWB

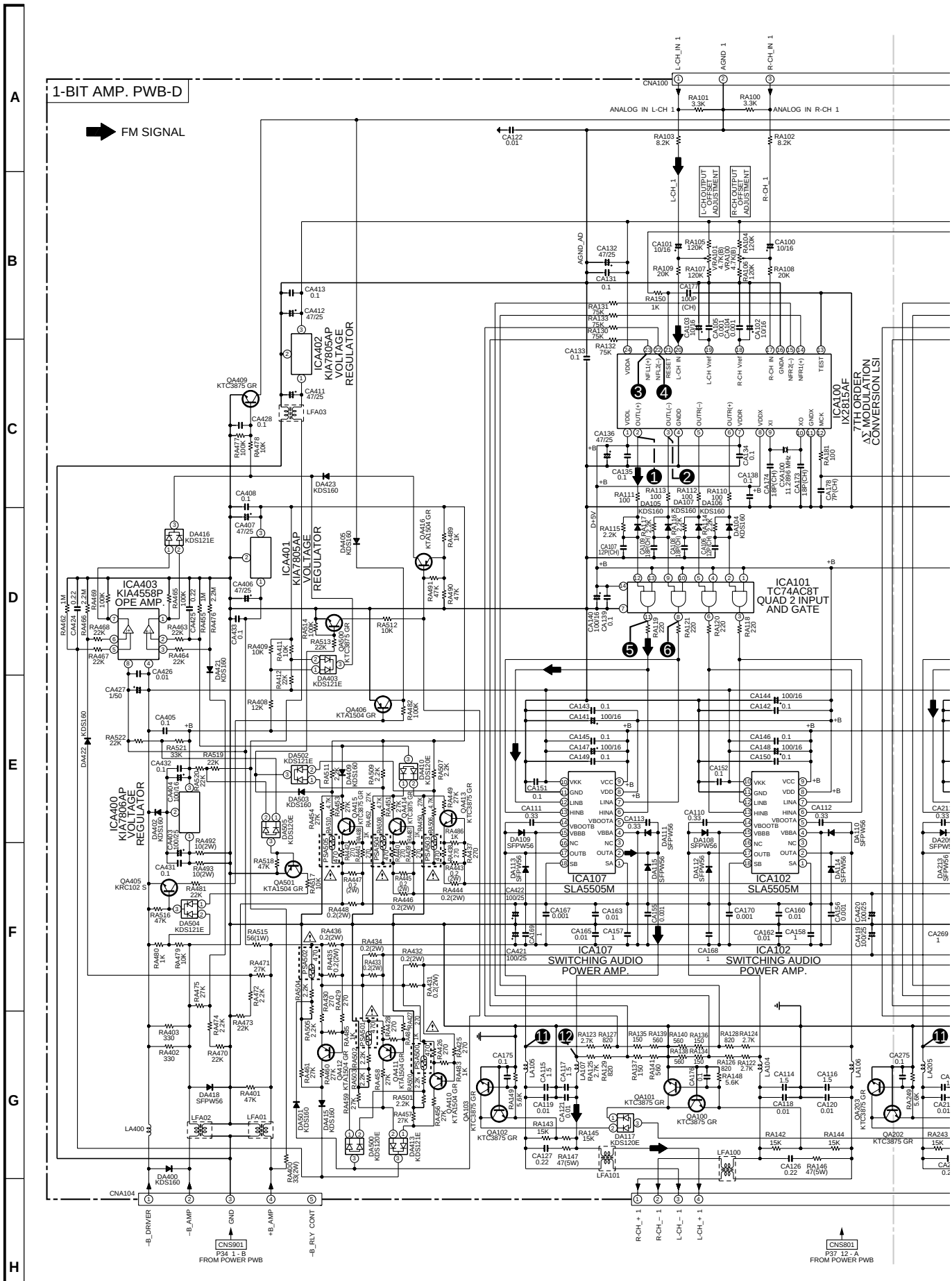
• NOTES ON SCHEMATIC DIAGRAM can be found on page 42.

Figure 36 SCHEMATIC DIAGRAM (7/11)



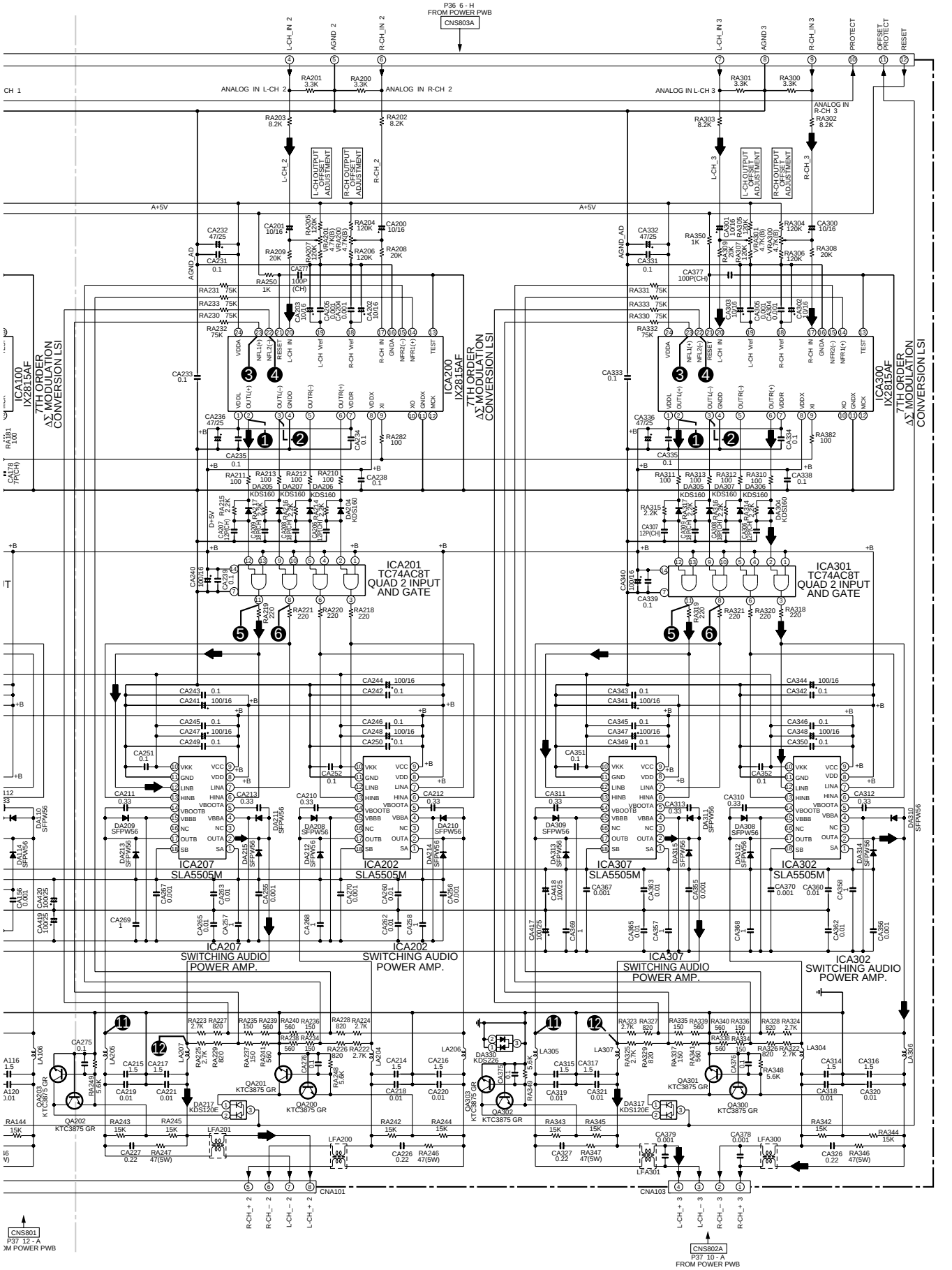
7	8	9	10	11	12

Figure 37 SCHEMATIC DIAGRAM (8/11)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 42.

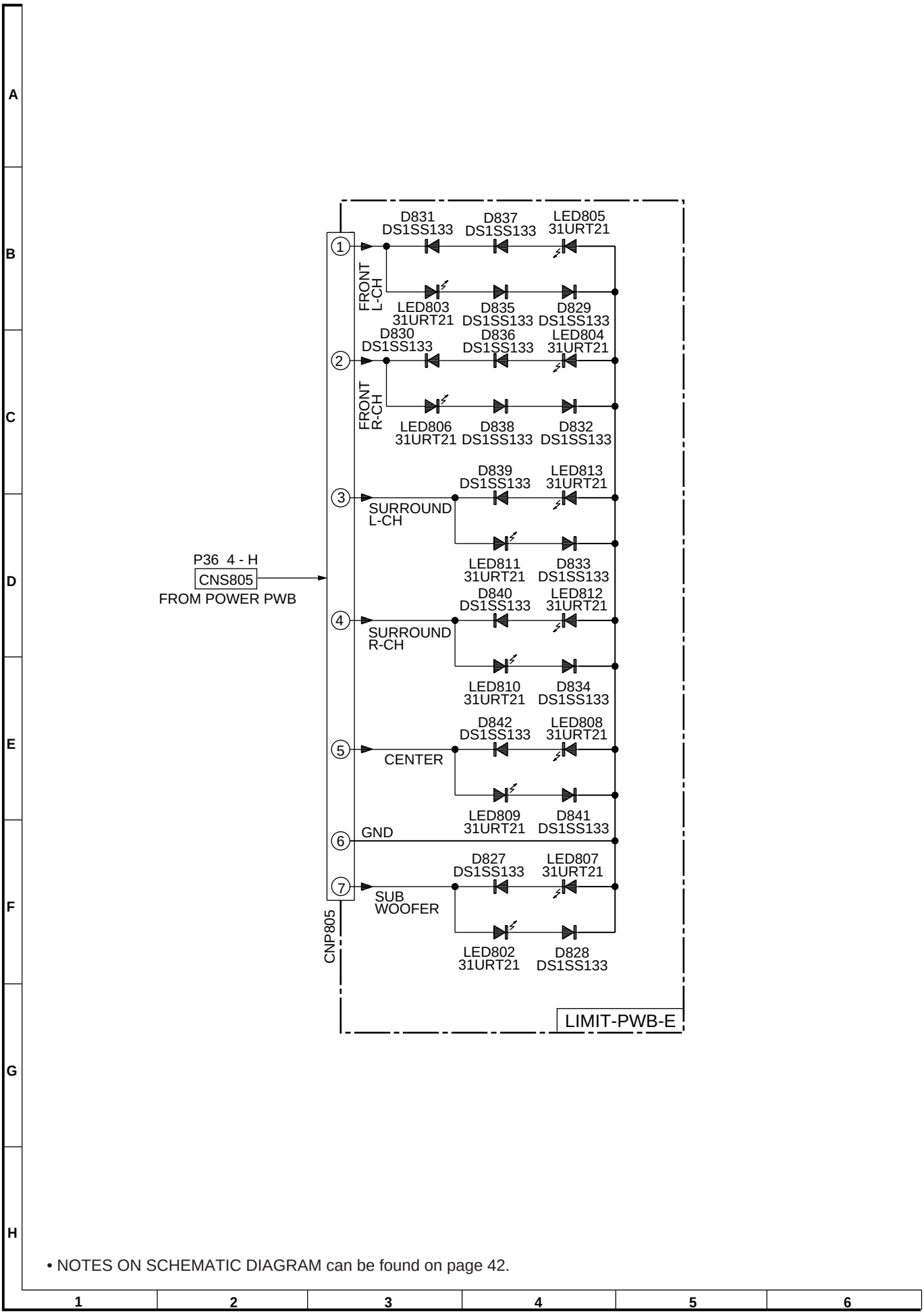
Figure 38 SCHEMATIC DIAGRAM (9/11)



• The numbers ❶ to ❻, ⓫, ⓬ are waveform numbers shown in page 43.

7	8	9	10	11	12

Figure 39 SCHEMATIC DIAGRAM (10/11)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 42.

Figure 40 SCHEMATIC DIAGRAM (11/11)

VOLTAGE

IC101	
PIN NO.	VOLTAGE
1	2.5 V
2	0 V
3	1.2 V
4	0.6 V
5	2.5 V
6	0 V
7	0 V
8	2.3 V
9	2.3 V
10	2.2 V
11	2.2 V
12	2.5 V
13	0 V
14	2.2 V
15	2.2 V
16	2.2 V
17	2.3 V
18	2.4 V
19	2.4 V
20	2.4 V
21	2.2 V
22	0 V
23	2.5 V
24	0 V
25	1.5 V
26	1.6 V
27	0 V
28	1.5 V
29	1.6 V
30	1.6 V
31	0.1 V
32	1.1 V
33	1.1 V
34	2.5 V
35	0 V
36	1 V
37	2.4 V
38	2.4 V
39	1.3 V
40	1.6 V
41	1.7 V
42	1.6 V
43	1.6 V
44	1.6 V

IC102	
PIN NO.	VOLTAGE
1	3.5 V
2	0.4 V
3	4.9 V
4	0 V
5	3.4 V
6	4.9 V
7	1.6 V
8	1.7 V
9	1.6 V
10	0.7 V
11	0.9 V
12	0.9 V
13	1 V
14	3.4 V
15	3.4 V
16	0 V
17	2.8 V
18	2.8 V
19	0 V
20	0 V
21	0 V
22	5 V
23	5 V
24	2.4 V
25	0 V
26	2.5 V
27	2.5 V
28	2.5 V
29	2.5 V
30	2.5 V
31	2.5 V
32	0.8 V
33	0.8 V
34	4.9 V
35	1.2 V
36	0 V
37	2.4 V
38	0 V
39	2.4 V
40	0 V
41	4 V
42	3.2 V
43	2.4 V
44	3.3 V

IC301			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	1.2 V	51	0 V
2	2.6 V	52	0 V
3	2 V	53	2.9 V
4	2.9 V	54	2.8 V
5	2.9 V	55	0 V
6	2.9 V	56	0 V
7	2.9 V	57	0 V
8	0 V	58	0 V
9	0.5 V	59	0 V
10	2.9 V	60	0 V
11	0 V	61	3 V
12	2 V	62	3 V
13	1.4 V	63	0 V
14	0 V	64	0 V
15	1.5 V	65	0 V
16	3 V	66	3 V
17	3 V	67	0 V
18	3 V	68	0 V
19	2.1 V	69	0 V
20	2.1 V	70	0 V
21	0 V	71	3 V
22	0 V	72	0 V
23	3 V	73	3.4 V
24	0 V	74	3.3 V
25	0.1 V	75	0 V
26	0 V	76	0 V
27	0 V	77	0 V
28	0 V	78	0 V
29	2.8 V	79	2.9 V
30	2.8 V	80	0 V
31	0 V	81	0 V
32	0 V	82	2.7 V
33	0 V	83	3 V
34	0 V	84	0 V
35	0 V	85	3.1 V
36	0 V	86	0 V
37	0 V	87	0 V
38	0 V	88	0 V
39	2.9 V	89	0.6 V
40	0 V	90	0.8 V
41	0 V	91	3 V
42	0 V	92	0 V
43	0 V	93	0.8 V
44	0 V	94	3 V
45	0 V	95	2.8 V
46	3.4 V	96	0 V
47	0 V	97	2.5 V
48	0 V	98	3 V
49	2.9 V	99	3 V
50	0 V	100	0 V

IC501			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	0 V	41	0 V
2	0 V	42	0 V
3	0 V	43	0 V
4	0 V	44	0 V
5	0 V	45	0.1 V
6	0 V	46	0 V
7	0 V	47	0 V
8	0 V	48	2.4 V
9	0 V	49	0 V
10	0 V	50	-6.7 V
11	0 V	51	0 V
12	0 V	52	6.8 V
13	0 V	53	0 V
14	0 V	54	0 V
15	0 V	55	0 V
16	0 V	56	0 V
17	0 V	57	0 V
18	0 V	58	0 V
19	0 V	59	0 V
20	0 V	60	0 V
21	0 V	61	0 V
22	0 V	62	0 V
23	0 V	63	0 V
24	0 V	64	0 V
25	0 V	65	0 V
26	0 V	66	0 V
27	0 V	67	0 V
28	0 V	68	0 V
29	0 V	69	0 V
30	0 V	70	0 V
31	0 V	71	0 V
32	0 V	72	0 V
33	0 V	73	0 V
34	0 V	74	0 V
35	0 V	75	0 V
36	0 V	76	0 V
37	0 V	77	0 V
38	0 V	78	0 V
39	0 V	79	0 V
40	0 V	80	0 V

IC901	
PIN NO.	VOLTAGE
1	0.5 V
2	0 V
3	127 V
4	18.9 V
5	2.7 V

IC911	
PIN NO.	VOLTAGE
1	6.9 V
2	10.2 V
3	0 V

IC912	
PIN NO.	VOLTAGE
1	14.8 V
2	0 V
3	12 V

IC913	
PIN NO.	VOLTAGE
1	0 V
2	7.2 V
3	3.7 V

ICA100	
PIN NO.	VOLTAGE
1	5 V
2	0~5 V
3	0~5 V
4	0 V
5	0~5 V
6	0~5 V
7	5 V
8	5 V
9	0.4~0.46 V
10	0~5 V
11	0 V
12	0~5 V
13	0 V
14	—
15	—
16	0 V
17	2.5 V
18	2.5 V
19	2.5 V
20	2.5 V
21	5 V
22	—
23	—
24	5 V

ICA101	
PIN NO.	VOLTAGE
1	5 V
2	0~5 V
3	0~5 V
4	5 V
5	0~5 V
6	0~5 V
7	0 V
8	0~5 V
9	0~5 V
10	5 V
11	0~5 V
12	0~5 V
13	5 V
14	5 V

ICA102	
PIN NO.	VOLTAGE
1	-14.5 V
2	—
3	—
4	14.8 V
5	-8~20 V
6	0~5 V
7	0~5 V
8	5 V
9	-8 V
10	-14.5 V
11	0 V
12	0~5 V
13	0~5 V
14	-8~20 V
15	14.8 V
16	—
17	-13.8~14.2 V
18	-14.5 V

ICA400	
PIN NO.	VOLTAGE
1	-1.5 V
2	-13.8 V
3	-8 V

ICA401	
PIN NO.	VOLTAGE
1	10.5 V
2	0 V
3	5 V

ICA402	
PIN NO.	VOLTAGE
1	12.4 V
2	0 V
3	5 V

IC103	
PIN NO.	VOLTAGE
1	1 V
2	1.9 V
3	0 V
4	0 V
5	3.3 V
6	1.7 V
7	1.7 V
8	3.3 V

IC104	
PIN NO.	VOLTAGE
1	2.5 V
2	2.3 V
3	0 V
4	0 V
5	2.9 V
6	2.5 V
7	0 V
8	0 V
9	0 V
10	0.7 V
11	2.8 V
12	3.2 V
13	2.5 V
14	3.3 V

IC505	
PIN NO.	VOLTAGE
1	0.1 V
2	0 V
3	0 V
4	-12.9 V
5	0 V
6	0 V
7	0 V
8	11.8 V

IC514	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0 V
4	12.5 V
5	0 V
6	1.5 V
7	-12.5 V
8	-12.5 V
9	1.5 V
10	0 V
11	-13.6 V
12	0 V
13	0 V
14	0 V

IC701	
PIN NO.	VOLTAGE
1	5 V
2	0 V
3	0 V
4	0.05 V
5	0 V
6	3 V
7	3.1 V
8	3 V
9	2.8 V
10	0 V
11	1.5 V
12	1.5 V
13	0 V
14	3.1 V
15	0 V
16	3.1 V
17	0 V
18	3.1 V
19	3.1 V
20	3.1 V
21	0 V
22	1.5 V
23	1.7 V
24	1.5 V
25	1.7 V
26	3 V
27	2.9 V
28	3.1 V
29	3.7 V
30	0 V
31	0 V
32	0.1 V

IC811	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0 V
4	12 V
5	0 V
6	0 V
7	0 V
8	-12.1 V

IC812	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0 V
4	12 V
5	0 V
6	0 V
7	0 V
8	-12.1 V

IC813	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0 V
4	12 V
5	0 V
6	0 V
7	0 V
8	-12.1 V

IC109	
PIN NO.	VOLTAGE
1	2.6 V
2	2.6 V
3	0 V
4	0 V
5	5 V
6	2.6 V
7	2.6 V
8	5 V

IC112	
PIN NO.	VOLTAGE
1	5 V
2	0 V
3	3.3 V

IC507	
PIN NO.	VOLTAGE
1	2.8 V
2	6.8 V
3	0 V
4	5 V
5	0 V

IC702	
PIN NO.	VOLTAGE
1	3.1 V
2	3.1 V
3	0 V

IC110	
PIN NO.	VOLTAGE
1	8.9 V
2	0 V
3	5 V

IC302	
PIN NO.	VOLTAGE
1	0.7 V
2	0 V
3	0 V
4	3 V
5	3 V

IC513	
PIN NO.	VOLTAGE
1	14.3 V
2	0 V
3	9 V

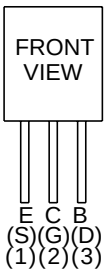
IC111	
PIN NO.	VOLTAGE
1	5 V
2	0 V
3	2.5 V

NOTES ON SCHEMATIC DIAGRAM

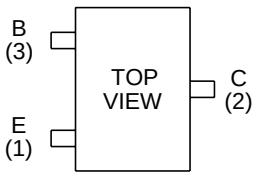
- Resistor:
  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with “Fusible” is a fuse type.
- Capacitor:
  To indicate the unit of capacitor, a symbol P is used: this symbol P means pico-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression “capacitance/withstand voltage” is used.
  (CH), (TH), (RH), (UJ): Temperature compensation
  (ML): Mylar type
  (P.P.): Polypropylene type
- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
- Parts marked with “ ⚠ ” (⊏ ニ ニ ニ ⊐) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW1	POWER	ON—OFF
SW2	VOLUME UP	ON—OFF
SW3	VOLUME DOWN	ON—OFF
SW4	DIGITAL/ANALOG	ON—OFF
SW5	FUNCTION	ON—OFF

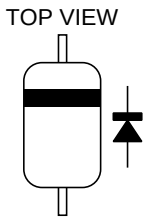
TYPES OF TRANSISTOR AND LED



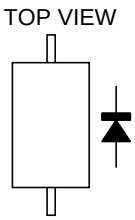
2SD1616 A
2SK246 GR
KTA1266 GR
KTA1271 Y
KTA1273 Y
KTC2874 B
KTC3199 GR
KTC3203 Y
KTC3205 Y
KRA106 M
KRA107 M
KRC102 M
KRC104 M
KRC106 M
KRC107 M



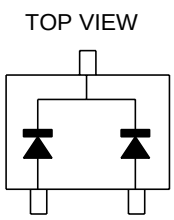
KTA1504 GR
KTC3875 GR
KRA106 S
KRC102 S
KRC104 S
KRC107 S



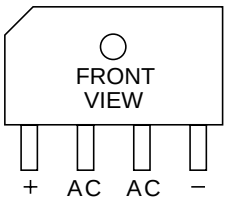
DS1SS133
D1NL20U



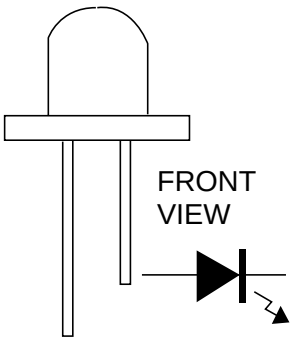
1N4004S
KDS160
SFPW56



KDS120E
KDS121E
KDS226



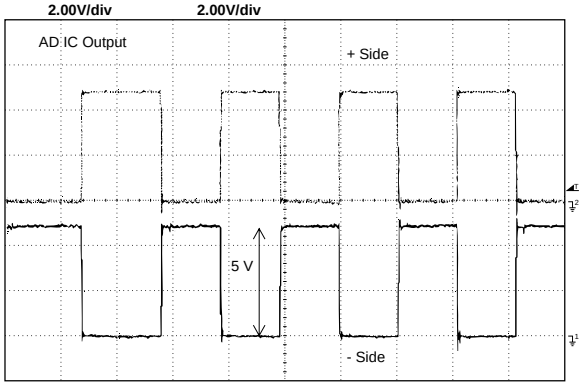
D5SB60



3105T1
3105VGT
31URT21
SEL2E10C
SELU2E10

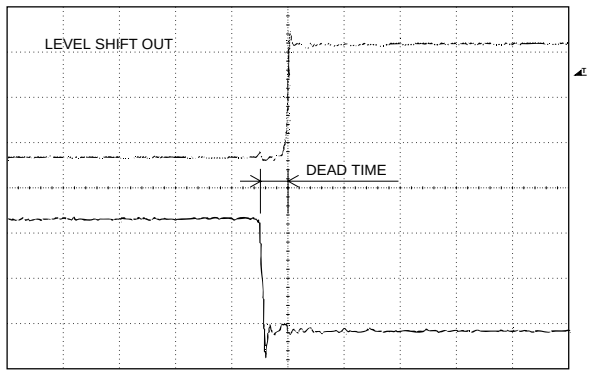
WAVEFORMS OF 1-BIT CIRCUIT

1
2



Amplitude
from 0 to 5 V

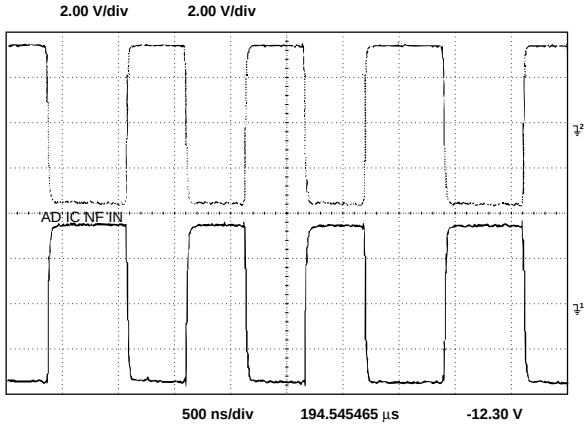
5
6



ZOOM UP

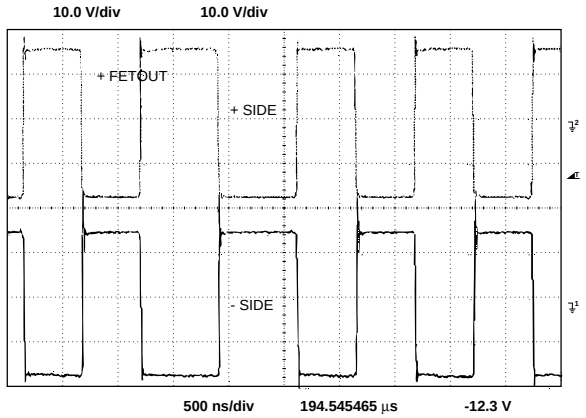
Dead time is generated by level shift input.
Leading edge is delayed at CR, passing R at DI.
Set value: 20 - 25 nsec.

3
4



In partial pressure OUT, 4 to 7 V amplitude of GND reference is observed.
In IC of 75 kohms, the reference is 2.5 V because of VREF. Due to imaginary GND of operational amplifier inside IC, the waveform cannot be monitored.
This waveform is partial pressure OUT.

11
12



Waveforms before low-pass filters at both ends of the speaker.
H-bridge may be considered as BTL.
However, here and at the gate drive, dead time is not observed; since bootstrap operates based on output, DEAD TIME part is in floating condition. The waveform on the HIGH side shows that only the booted voltage lowers.

FUNCTION TABLE OF IC

IC101 VHiCS493264-1: DSP (CS493264) (1/3)

Pin No.	Terminal Name	Input/Output	Function
1	VD1	Input	Digital positive supplies. Norminally + 2.5 V.
2	DGND1	—	Digital ground.
3	AUDATA3, XMT958	Output	CMOS level output that contains a biphase-mark encoded (S/PDIF) or I²S or Left Justified digital audio data which is capable of carrying two channels of PCM digital audio or an IEC61937 compressed-data interface. **Note:** Outputting of IEC61937 is only available for certain broadcast-based application codes which run on the CS4931X family or CS49330 device. This output typically connects to the input of an RS-422 transmitter or to the input of an optical transmitter.
4	$\overline{WR}$, $\overline{DS}$, $\overline{EMWR}$, GPIO10	Input	In Intel parallel host mode, this pin serves as the active-low data-write-input strobe. In Motorola parallel host mode, this pin serves as the active-low data-strobe-input signal. In serial host mode, this pin can serve as the external-memory active-low write-enable output signal. Also in serial host mode, this pin can serve as a general purpose input or output bit.
5	$\overline{RD}$, R/$\overline{W}$, $\overline{EMOE}$, GPIO11	Input	In Intel parallel host mode, this pin serves as the active-low data bus enable input. In Motorola parallel host mode, this pin serves as the read-high/write-low control input signal. In serial host mode, this pin can serve as the external memory active-low data-enable output signal. Also in serial host mode, this pin can serve as a general purpose input or output bit.
6	A1, SCDIN	Input	In parallel host mode, this pin serves as one of two address input pins used to select one of four parallel registers. In SPI serial host mode, this pin serves as the data input.
7	A0, SCCLK	Input	In parallel host mode, this pin serves as one of two address input pins used to select one four parallel registers. In serial host mode, this pin serves as the serial control clock signal, specifically as the SPI clock input or the I²C clock input.
8-11	DATA7, EMAD7, GPIO7-DATA4, EMAD4, GPIO4	Input	In parallel host mode, these pins provide a bidirectional data bus. If a serial host mode is selected, these pins can provide a multiplexed address and data bus for connecting an 8-bit external memory. Otherwise, in serial host mode, these pins can act as general-purpose input or output pins that can be individually configured and controlled by the DSP.
12	VD2	Input	Digital positive supplies. Norminally + 2.5 V.
13	DGND2	—	Digital ground.
14-17	DATA3, EMAD3, GPIO3-DATA0, EMAD0, GPIO0	Input	In parallel host mode, these pins provide a bidirectional data bus. If a serial host mode is selected, these pins can provide a multiplexed address and data bus for connecting an 8-bit external memory. Otherwise, in serial host mode, these pins can act as general-purpose input or output pins that can be individually configured and controlled by the DSP.
18	$\overline{CS}$	Input	In parallel host mode, this pin serves as the active-low chip-select input signal. In serial host SPI mode, this pin is used as the active-low chip-select input signal.
19	SCDIO, SCDOUT, PSEL, GPIO9	Input	In I²C mode, this pin serves as the open-drain bidirectional data pin. In SPI mode this pin serves as the data output pin. In parallel host mode, this pin is sampled at the rising edge of $\overline{RESET}$ to configure the parallel host mode as an Intel type bus or as a Motorola type bus. In parallel host mode, after the bus mode has been selected, the pin can function as a general-purpose input or output pin. In I²C mode this pin is an OPEN DRAIN I/O and requires a 4.7 k Pull-Up.
20	$\overline{INTREQ}$, $\overline{ABOOT}$	—	Open-drain interrupt-request output. This pin is driven low to indicate that the DSP has outgoing control data and should be serviced by the host. Also in serial host mode, this signal initiates an automatic boot cycle from external memory if it is held low through the rising edge of reset. OPEN DRAIN I/O - Requires 4.7 kohms Pull-Up.
21	$\overline{EXTMEM}$, GPIO8	Input	In serial control port mode, this pin can serve as an output to provide the chip-select for an external byte-wide ROM. In parallel and serial host mode, this pin can also function as a general-purpose input or output pin.
22	SDATAN1	Input	Digital-audio data input that can accept from one to six channels of compressed or PCM data. SDATAN1 can be sampled with either edge of SCLKN1, depending on how SCLKN1 has been configured.
23	VD3	Input	Digital positive supplies. Norminally + 2.5 V.
24	DGND3	—	Digital ground.

IC101 VHiCS493264-1: DSP (CS493264) (2/3)

Pin No.	Terminal Name	Input/Output	Function
25	SCLKN1, STCCLK2	Input	Bidirectional digital-audio bit clock that is an output in master mode and an input in slave mode. In slave mode, SCLKN1 operates asynchronously from all other CS493XX clocks. In master mode, SCLKN1 is derived from the CS493XX internal clock generator. In either master or slave mode, the active edge of SCLKN1 can be programmed by the DSP. For applications supporting PES layer synchronization this pin can be used as STCCLK2, which provides a path to the internal STC 33 bit counter.
26	LRCLKN1	Input	Bidirectional digital-audio frame clock that is an output in master mode and an input in slave mode. LRCLKN1 typically is run at the sampling frequency. In slave mode, LRCLKN1 operates asynchronously from all other CS493XX clocks. In master mode, LRCLKN1 is derived from the CS493XX internal clock generator. In either master or slave mode, the polarity of LRCLKN1 for a particular subframe can be programmed by the DSP.
27	CMPDAT, SDATAN2	Input	Digital-audio data input that can accept from one to six channels of compressed or PCM data. SDATAN2 can be sampled with either edge of SCLKN2, depending on how SCLKN2 has been configured. Similarly CMPDAT is the compressed data input pin when the CDI is configured for bursty delivery. When in this mode, the CS493XX internal PLL is driven by the clock recovered from the incoming data stream.
28	CMPCLK, SCLKN2	Input	Bidirectional digital-audio bit clock that is an output in master mode and an input in slave mode. In slave mode, SCLKN2 operates asynchronously from all other CS493XX clocks. In master mode, SCLKN2 is derived from the CS493XX internal clock generator. In either master or slave mode, the active edge of SCLKN2 can be programmed by the DSP. If the CDI is configured for bursty delivery, CMPCLK is an input used to sample CMPDAT.
29	CMPREQ, LRCLKN2	Input	When the CDI is configured as a digital audio input, this pin serves as a bidirectional digital-audio frame clock that is an output in master mode and an input in slave mode. LRCLKN2 typically is run at the sampling frequency. In slave mode, LRCLKN2 operates asynchronously from all other CS493XX clocks. In master mode, LRCLKN2 is derived from the CS493XX internal clock generator. In either master or slave mode, the polarity of LRCLKN2 for a particular subframe can be programmed by the DSP. When the CDI is configured for bursty delivery, or parallel audio data delivery is being used, CMPREQ is an output which serves as an internal FIFO monitor. CMPREQ is an active low signal that indicates when another block of data can be accepted.
30	CLKIN	Input	CS493XX clock input. When in internal clock mode (CLKSEL == DGND), this input is connected to the internal PLL from which all internal clocks are derived. When in external clock mode (CLKSEL == VD), this input is connected to the DSP clock.
31	CLKSEL	Input	This pin selects the clock mode of the CS493XX. When CLKSEL is low, CLKIN is connected to the internal PLL from which all internal clocks are derived. When CLKSEL is high CLKIN is connected to DSP clock.
32, 33	FILT2, FILT1	—	Connects to an external filter for the on-chip phase-locked loop.
34	VA	Input	Analog positive supply for clock generator. Nominally +2.5 V.
35	AGND	—	Analog ground for clock generator PLL.
36	$\overline{\text{RESET}}$	Input	Asynchronous active-low master reset input. Reset should be low at power-up to initialize the CS493XX and to guarantee that the device is not active during initial power-on stabilization periods. As the rising edge of reset the host interface mode is selected contingent on the state of the $\overline{\text{RD}}$, $\overline{\text{WR}}$ and PSEL pins. Additionally, an autoboot sequence can be initiated if a serial control mode is selected and $\overline{\text{ABOOT}}$ is held low. If reset is low all bidirectional pins are high impedance inputs.
37, 38	DD, DC	—	This pin is reserved and should be pulled up with an external 4.7 k resistor.
39, 40	AUDATA2, AUDATA1	Output	PCM multi-format digital-audio data output, capable of two-channel 20-bit output. This PCM output defaults to DGND as output until enabled by the DSP software.
41	AUDATA0	Output	PCM multi-format digital-audio data output, capable of two-, four-, or six-channel 20-bit output. This PCM output defaults to DGND as output until enabled by the DSP software.
42	LRCLK	Input	Bidirectional digital-audio output-sample-rate clock. LRCLK can be an output that is divided from MCLK to provide the output sample rate depending on the output configuration. LRCK can also be an input. As an input LRCLK is independent of MCLK.

IC101 VHiCS493264-1: DSP (CS493264) (3/3)

Pin No.	Terminal Name	Input/Output	Function
43	SCLK	Input	Bidirectional digital-audio output bit clock. SCLK can be an output that is derived from MCLK to provide 32 Fs, 64 Fs, 128 Fs, 256 Fs, or 512 Fs, depending on the MCLK rate and the digital-output configuration. SCLK can also be an input and must be at least 48 Fs or greater. As an input, SCLK is independent of MCLK.
44	MCLK	Input	Bidirectional master audio clock. MCLK can be an output from the CS493XX that provides an oversampled audio-output clock at either 128 Fs, 256 Fs, or 512 Fs. MCLK can be an input at 128 Fs, 256 Fs, 384 Fs, or 512 Fs. MCLK is used to derive SCLK and LRCLK when SCLK and LRCLK are driven by the CS493XX.

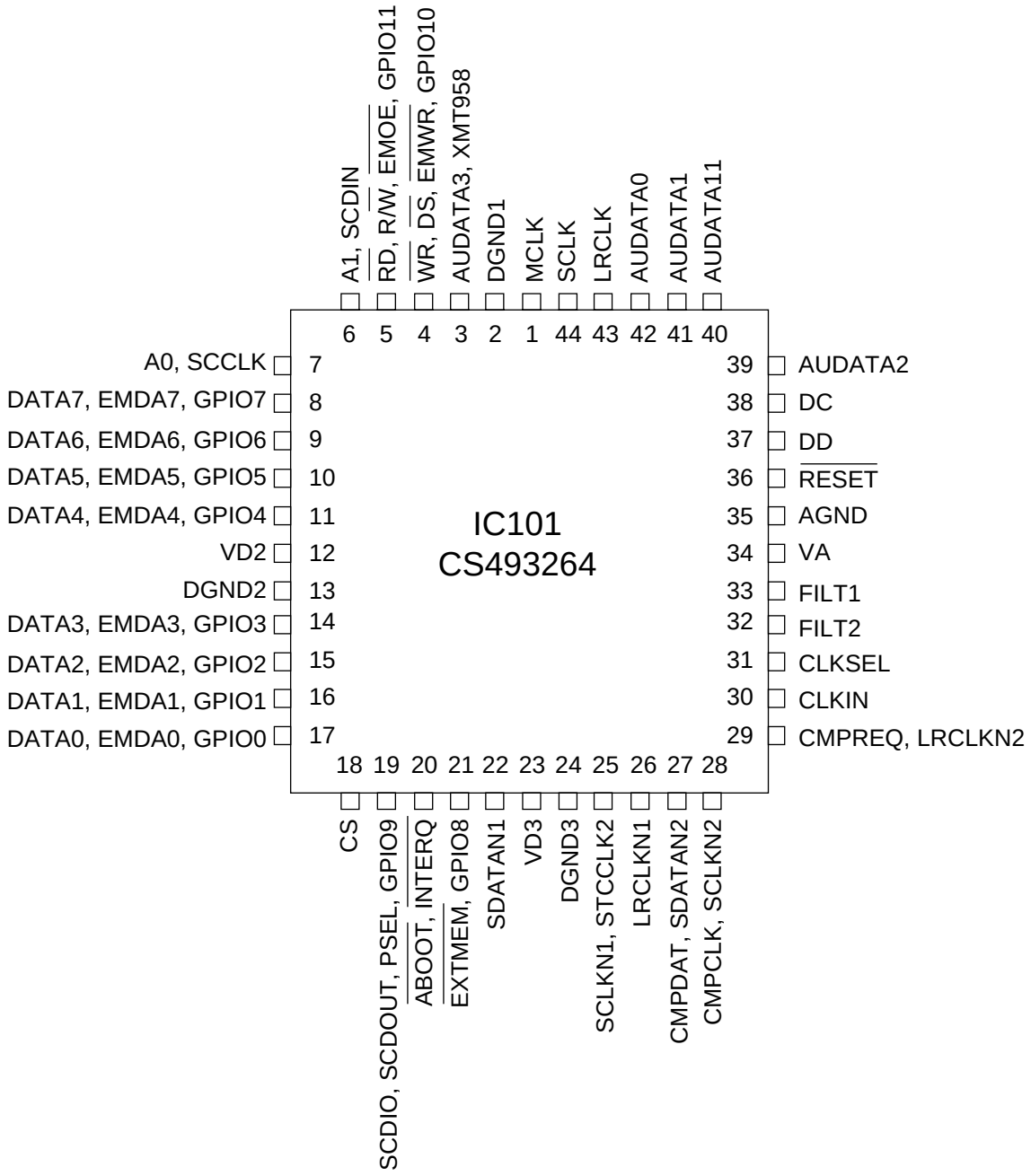


Figure 46 BLOCK DIAGRAM OF IC

IC102 VHiAK4586VQ-1: ADC/DAC/DIR Converter (AK4586VQ) (1/2)

Pin No.	Terminal Name	Input/Output	Function
1*	XTO	Output	Crystal resonator output pin.
2	XTI	Input	Crystal resonator input pin.
	EXTCLK	Input	Master clock input pin.
3	TVDD	Input	Power supply pin for the output buffer. 2.7 V – 5.5 V.
4	DVSS	—	Digital ground pin. 0 V.
5	DVDD	Input	Digital power supply pin. 4.5 V – 5.5 V.
6*	TX	Output	Transmit channel (through data) output pin.
7	MCKO	Output	Master clock output pin.
8	LRCK	Input/Output	Input/output channel clock pin.
9	BICK	Input/Output	Audio serial data clock pin.
10	SDTO	Output	Audio serial data output pin.
11	SDTI1	Input	DAC1 audio serial data input pin.
12	SDTI2	Input	DAC2 audio serial data input pin.
13	SDTI3	Input	DAC3 audio serial data input pin.
14*	INT0	Output	Interrupt 0 pin.
15	INT1	Output	Interrupt 1 pin.
16	CDTO	Output	Control data output pin. (In the 4-line serial mode)
	CAD1	Input	Chip address 1 pin. (In the I²C bus mode)
17	CDTI	Input	Control data input pin. (In the 4-line serial mode)
	SDA	Input/Output	Control data input/output pin. (In the I²C bus mode)
18	CCLK	Input	Control data clock pin. (In the 4-line serial mode)
	SCL	Input	Control data clock pin. (In the I²C bus mode)
19	CSN	Input	Chip select pin. (In the 4-line serial mode)
	CAD0	Input	Chip address 0 pin. (In the I²C bus mode)
20	DZF2	Output	Zero input detect 2 pin. (Note 1) When the input data of group 2 is “0” for 8192 times in a row or the RSTN bit is “0”, it changes to “H”.
	OVF	Output	Analog input overflow detect pin. (Note 2) It changes to “H” if the analog input of Lch or Rch overflows.
21	AVSS	—	Analog ground pin. 0 V.
22	AVDD	Input	Analog power supply pin. 4.5 V – 5.5 V.
23	VREFH	Input	Reference voltage input pin. AVDD.
24	VCOM	Output	Common voltage output pin. AVDD/2.
25*	DZF1	Output	Zero input detect 1 pin. (Note 1) When the input data of group 1 is “0” for 8192 times in a row or the RSTN bit is “0”, it changes to “H”.
26	LOUT3	Output	DAC3 L channel analog output pin.
27	ROUT3	Output	DAC3 R channel analog output pin.
28	LOUT2	Output	DAC2 L channel analog output pin.
29	ROUT2	Output	DAC2 R channel analog output pin.
30	LOUT1	Output	DAC1 L channel analog output pin.
31	ROUT1	Output	DAC1 R channel analog output pin.
32	LIN	Input	L channel analog input pin.
33	RIN	Input	R channel analog input pin.
34	PVDD	Input	PLL power supply pin. 4.5 V – 5.5 V.
35	R	—	External resistor pin.
36	PVSS	—	PLL ground pin. 0 V.
37*	RX4	Input	Receiver channel input 4 pin. (Internal bias pin)
38	SLAVE	Input	Slave mode pin. “L” : master mode or slave mode, “H” : slave mode
39*	RX3	Input	Receiver channel input 3 pin. (Internal bias pin)
40	TST	Input	Test pin. Connect to DVSS.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC102 VHiAK4586VQ-1: ADC/DAC/DIR Converter (AK4586VQ) (2/2)

Pin No.	Terminal Name	Input/Output	Function
41	RX2	Input	Receiver channel input 2 pin. (Internal bias pin)
42	I²C	Input	Serial control mode selection pin. “L” : 4-line serial, “H” : I2C bus
43	RX1	Input	Receiver channel input 1 pin. (Internal bias pin)
44	PDN	Input	Power down & reset pin. When this pin is set to “L”, it falls into power down state; all the output pins change to “L” and the register is initialized. If CAD1-0 is switched, reset it using the PDN pin.

Notes :
1. Grouping of the channels can be set with DZFM2-0 bit.
2. This pin turns to an OVF pin if the OVFE bit is set to “1”.
3. Except for the internal bias pins, any of the digital input pins must not be floated.

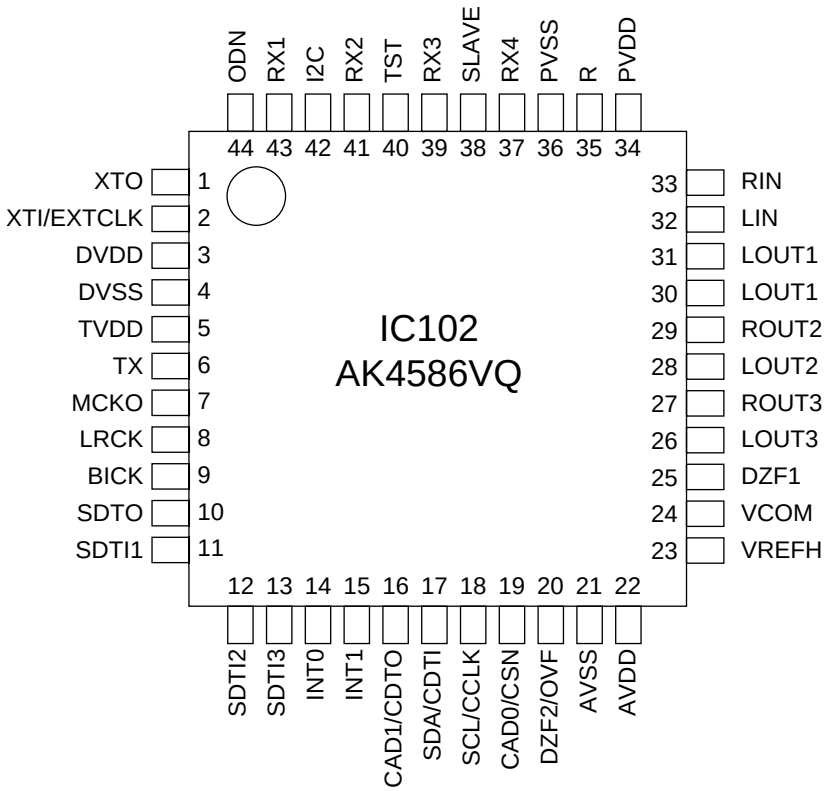


Figure 48 BLOCK DIAGRAM OF IC

IC301 RH-iX0563AWZZ: DSP System Microcomputer (IX0563AW) (1/3)

Pin No.	Port Name	Terminal Name	Input/Output	Function
1	P96/ANEX1/SOUT4	LCD_SDA	Output	Display data output to the LCD driver.
2	P95/ANEX0/CLK4	LCD_SCL	Output	Serial clock output to the LCD driver.
3	P94/DA1/TB4IN	LCD_CS	Output	CS control output to the LCD driver.
4	P93/DA0/TB3IN	LCD_RESET	Output	LCD driver RESET control output.
5	P92/TB2IN/SOUT3	AMP_SOUT	Output	Control DATA output to the AMP UNIT microcomputer.
6	P91/TB1IN/SIN3	AMP_SIN3	Input	Control DATA input from the AMP UNIT microcomputer.
7	P90/TB0IN/CLK3	AMP_CLK	Output	Clock output for communication with the AMP UNIT microcomputer.
8	BYTE	BYTE	Input	Connected to VSS since external bus is not used.
9	CNVSS	FLASH_VCC	Input	Used in the single chip mode. Connected to VSS via pull-down resistor. VCC for external usage only when writing on FLASH.
10	P87/XCIN	AMP_STB	Output	Enable output for communication with the AMP UNIT microcomputer.
11*	P86/XCOUT	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
12	$\overline{\text{RESET}}$	RESET	Input	Reset input for this microcomputer. Active “L”. Connected to writer RESET line when writing on FLASH.
13	XOUT	X_OUT	Output	Reference oscillation output for this microcomputer. 8.38 MHz crystal connection.
14	VSS	GND	—	Connected to GND (VSS).
15	XIN	X_IN	Input	Reference oscillation input for this microcomputer. 8.38 MHz crystal connection.
16	VCC	VCC	Input	Power supply input for this microcomputer. (3.3 V) Backup power supply.
17	P85/$\overline{\text{NMI}}$	FLASH_"H"	Input	Connected to VCC via pull-up resistor. (Setting for writing on Flash)
18	P84/$\overline{\text{INT2}}$	SYS_STOP	Input	Power failure detect input/output. This microcomputer switches to the backup mode. Normal : “H”, power failure detection when switching from “H” to “L”.
19	P83/$\overline{\text{INT1}}$	AMP_INT	Input	Communication request input from AMP UNIT.
20	P82/$\overline{\text{INT0}}$	RX_IN	Input	SHARP system, remote control input.
21*	P81/TA4IN/U	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
22*	P80/TA4OUT/U	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
23	P77/TA3IN	REG_ON	Output	3-terminal regulator ON/OFF control output for the power supply. “H” : ON, “L” : OFF
24*	P76/TA3OUT	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
25	P75/TA2IN/$\overline{\text{W}}$	DVD_ON	Input	Input for detecting DVD PLAYER connection cable insertion. “H” : connected, “L” : not connected
26	P74/TA2OUT/W	KEY_OUT	Output	Key code output terminal for the DVD PLAYER control.
27*	P73/$\overline{\text{CTS2}}$/$\overline{\text{RTS2}}$/TA1IN/$\overline{\text{V}}$	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
28	P72/CLK2/TA1OUT/V	OVF	Input	A/D converter overflow detect input of AK4586. “H” : overflow, “L” : normal
29	P71/RXD2/SCL/TA0IN/TB5IN	SCL	Output	AK4586/CXA2125Q I²C BUS clock output.
30	P70/TXD2/SDA/TA0OUT	SDA	Input/Output	AK4586/CXA2125Q I²C BUS data input/output.
31	P67/TXD1	FLASH_TXD	Output	Functionally not used. Normally, fixed output to “L”. (Send data output to the FLASH writer)
32	P66/RXD1	FLASH_RXD	Output	Functionally not used. Normally, fixed output to “L”. (Receive data output to the FLASH writer)
33	P65/CLK1	FLASH_SCLK	Output	Functionally not used. Normally, fixed output to “L”. (Transfer clock input from the FLASH writer)
34	P64/$\overline{\text{CTS1}}$/$\overline{\text{RTS1}}$/$\overline{\text{CTS0}}$/CLKS1	FLASH_BUSY	Output	Functionally not used. Normally, fixed output to “L”. (BUSY output to the FLASH writer. BUSY : “H”)
35	P63/TXD0	DSP_SCDIN	Output	DSP IC serial data output.
36	P62/RXD0	DSP_SCDOUT	Input	DSP IC serial data input.
37	P61/CLK0	DSP_SCCLK	Output	Output of DSP IC serial send/receive synchronous clock.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC301 RH-iX0563AWZZ: DSP System Microcomputer (IX0563AW) (2/3)

Pin No.	Port Name	Terminal Name	Input/Output	Function
38	P60/$\overline{CTS0}$/$\overline{RTS0}$	DSP_CS	Input	DSP IC serial send/receive strobe output.
39	P57/$\overline{RDY}$/CLKOUT	DSP_RESET	Output	DSP IC RESET output.
40*	P56/ALE	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
41	P55/$\overline{HOLD}$	FLASH_EPM	Input	Connected to VSS via pull-down resistor. (Setting for when writing on Flash) Functionally not used.
42*	P54/$\overline{HLDA}$	DSP_UC15	Output	External ROM for DSP download program. Page select output.
43*	P53/BCLK	DSP_US16	Output	External ROM for DSP download program. Page select output.
44*	P52/$\overline{RD}$	DSP_UC17	Output	External ROM for DSP download program. Page select output.
45*	P51/$\overline{WRH}$/$\overline{BHE}$	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
46	P50/$\overline{WRL}$/$\overline{WR}$	FLASH_CE	Input	Connected to VCC via pull-up resistor. (Setting for writing on Flash)
47	P47/$\overline{CS3}$	TIMER_LED	Output	Timer stand-by LED control. “H” output : LED on, “L” output : LED off
48	P46/$\overline{CS2}$	DD_LED	Output	DOLBY DIGITAL IND. “H” output : LED on, “L” output : LED off
49	P45/$\overline{CS1}$	STD_LED	Output	Sound MODE STANDARD IND. “H” output : LED on, “L” output : LED off
50	P44/$\overline{CS0}$	DTS_LED	Output	DTS IND. “H” output : LED on, “L” output : LED off
51	P43/A19	SURR_LED	Output	Sound MODE STANDARD IND. “H” output : LED on, “L” output : LED off
52	P42/A18	STEREO_LED	Output	STEREO IND. “H” output : LED on, “L” output : LED off
53	P41/A17	DPL_LED	Output	DOLBY PRO LOGIC IND. “H” output : LED on, “L” output : LED off
54	P40/A16	B_LIGHT	Output	LCD backlight circuit control output. “H” : backlight ON, “L” : backlight OFF
55	P37/A15	VOL_DA	Output	Data latch output for the electron VOL IC control signal.
56	P36/A14	VOL_CL	Output	Output of the clock for the electron VOL IC control signal.
57*	P35/A13	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
58*	P34/A12	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
59*	P33/A11	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
60*	P32/A10	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
61	P31/A9	TEST1	Input	Input terminal for test. If it is “L” at RESET, it switches to a mode where it operates separately without communicating with the microcomputer.
62	VCC	VCC	Input	Power supply input for this microcomputer. (3.3 V) Backup power supply.
63*	P30/A8(/-/D7)	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
64	VSS	GND	—	Connected to GND (VSS).
65*	P27/A7(/D7/D6)	ROM	Output	Fixed to L.
66	P26/A6(/D6/D5)	DSP_ABOOT	Output	Fixed to H.
67*	P25/A5(/D5/D4)	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
68*	P24/A4(/D4/D3)	N.C.	Input/Output	Set it as an output terminal and fix it to Low since it is not used.
69*	P23/A3(/D3/D2)	L-MUTE	Output	Audio mute output of the VCR OUT. H : MUTE OFF, L : MUTE ON
70	P22/A2(/D2/D1)	DIG_FUNC+B	Output	Power supply control output for external DIG. input. External DIG. FUNC : “L” output, Others : “H” output
71	P21/A1(/D1/D0)	BASS-SW	Output	Output for controlling the gain of the SUBWOOFER amp. “H” output : BASS OFF, “L” output : BASS ON.
72	P20/A0(/D0/-)	S_MUTE	Output	System mute control output. “L” output : mute ON, “H” output: mute OFF.
73	P17/D15/$\overline{INT5}$	NONPCM	Input	Input for detecting whether the AUDIO signal is PCM or not. “L” : AUDIO PCM, “H” : NON AUDIO PCM.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC301 RH-iX0563AWZZ: DSP System Microcomputer (IX0563AW) (3/3)

Pin No.	Port Name	Terminal Name	Input/Output	Function
74	P16/D14/$\overline{\text{INT4}}$	DSP_INTREQ	Input	Input of DSP data receive request signal. L : DSP -> microcomputer DATA receive request.
75	P15/D13/$\overline{\text{INT3}}$	H.P_SW	Input	Headphones insert SW detect input. “H” : H.P insert, SP relay OFF, A/D reset control
76*	P14/D12	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
77*	P13/D11	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
78*	P12/D10	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
79	P11/D9	CONFIG	Output	CONFING setting output. SUBWOOFER : “H” with YES (CONGING1) “L” with NO (CONFING2).
80*	P10/D8	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
81	P07/D7	AUDITION	Input	Audition MODEL select input. H : audition MODEL, L : normal MODEL.
82	P06/D6	POWER_KEY	Input	Power supply operation key input.
83	P05/D5	FM_STB	Output	“L” when FUNCTION is “FM STEREO” or “FM MONO”. Otherwise “H”.
84*	P04/D4	N.C.	Output	Set it as an output terminal and fix it to Low since it is not used.
85	P03/D3	CCB_DO	Input	Serial data input from the Sanyo CCB device.
86	P02/D2	CCB_CL	Output	Serial clock output to the Sanyo CCB device.
87	P01/D1	CCB_DI	Output	Serial command data output to the Sanyo CCB device.
88	P00/D0	CCB_CE	Output	CE control output to the Sanyo CCB device.
89	P107/AN7/$\overline{\text{KI3}}$	TUNER_SM	Input (A/D Input)	A/D import, input of tuner field intensity comparison detect.
90*	P106/AN6/$\overline{\text{KI2}}$	N.C.	Output (A/D Input)	Set it as an output terminal and fix it to Low since it is not used.
91	P105/AN5/$\overline{\text{KI1}}$	PROTECT	Input (A/D Input)	A/D import, system abnormality detect input.
92	P104/AN4/$\overline{\text{KI0}}$	AREA	Input (A/D Input)	A/D import, destination setting for TUNER BAND.
93*	P103/AN3	N.C.	Output (A/D Input)	Set it as an output terminal and fix it to Low since it is not used.
94	P102/AN2	DVD_POWER	Input (A/D Input)	A/D import, input for detecting the DVD player status.
95	P101/AN1	KEY1	Input (A/D Input)	A/D import, main body key input 1.
96	AVSS	GND	—	VSS terminal of the A/D converter. Connected to GND (VSS).
97	P100/AN0	POWER	Input (A/D Input)	Port for detecting power ON when importing the A/D.
98	VREF	VREF	Input	Reference voltage input terminal of the A/D converter. Connected to the VCC terminal.
99	AVCC	AVCC	Input	Power supply input terminal of the A/D converter. Connected to the VCC terminal.
100	P97/$\overline{\text{ADTRG}}$/SIN4	GND	Input	Port processing. Fixed to “L”. (Not used)

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC301 RH-iX0563AWZZ: DSP System Microcomputer (IX0563AW)

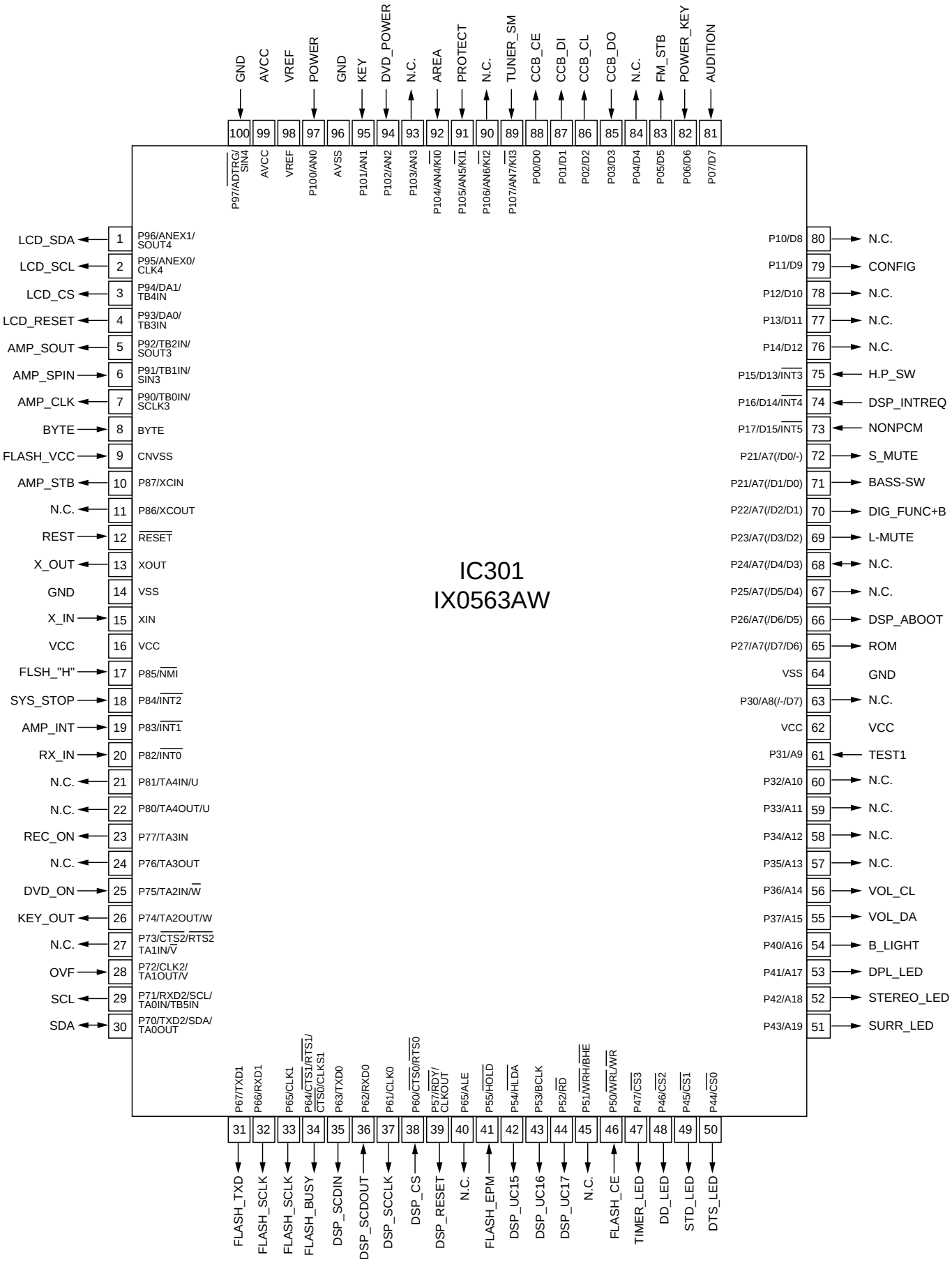


Figure 52 BLOCK DIAGRAM OF IC

IC501 VHiBD3811K1-1: Volume IC (BD3811K1) (1/2)

Pin No.	Terminal Name	Function
1	IN31	1ch input terminal 3.
2	IN32	2ch input terminal 3.
3	IN41	1ch input terminal 4.
4	IN42	2ch input terminal 4.
5	IN51	1ch input terminal 5.
6	IN52	2ch input terminal 5.
7	IN61	1ch input terminal 6.
8	IN62	2ch input terminal 6.
9	IN71	1ch input terminal 7.
10	IN72	2ch input terminal 7.
11	IN81	1ch input terminal 8.
12	IN82	2ch input terminal 8.
13	INDVDSR	DVD surround Rch input terminal.
14	INDVDSL	DVD surround Lch input terminal.
15	INDVDC	DVD center speaker input terminal.
16	INDVDSW	DVD subwoofer input terminal.
17	OUT2(+)	2ch (+) A/D output terminal.
18*	OUT2(-)	2ch (-) A/D output terminal.
19	OUT1(+)	1ch (+) A/D output terminal.
20*	OUT1(-)	1ch (-) A/D output terminal.
21	IN1DSP	1ch DSP input terminal.
22	IN1MIX	1ch DSP MIX input terminal.
23	IN2DSP	2ch DSP input terminal.
24	IN2MIX	2ch DSP MIX input terminal.
25	INDSPSR	DSP surround Rch input terminal.
26	INDSPSL	DSP surround Lch input terminal.
27	INDSPC	DSP center speaker input terminal.
28	INDSPSW	DSP subwoofer input terminal.
29	AGND1	Analog ground terminal.
30	GOUTSW	Subwoofer input gain output terminal.
31	VINSW	Subwoofer volume input terminal.
32	AGND2	Analog ground terminal.
33	GOUTC	Center speaker input gain output terminal.
34	VINC	Center speaker volume input terminal.
35	OUTSW	Subwoofer output terminal.
36	OUTC	Center speaker output terminal.
37	OUTSL	Surround Lch output terminal.
38	OUTSR	Surround Rch output terminal.
39	VINSL	Surround Lch volume input terminal.
40	GOUTSL	Surround Lch input gain output terminal.
41	AGND3	Analog ground terminal.
42	VINSR	Surround Rch volume input terminal.
43	GOUTSR	Surround Rch input gain output terminal.
44	AGND4	Analog ground terminal.
45	DGND	Ground terminal for comparator.
46	DA	Serial data and latvh input terminal.
47	CL	Serial clock input terminal.
48	MUTE	Mute terminal.
49	AGND5	Analog ground terminal.
50	VEE	(-) Power supply terminal.
51	AGND6	Analog ground terminal.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC501 VHiBD3811K1-1: Volume IC (BD3811K1) (2/2)

Pin No.	Terminal Name	Function
52	VCC	(+) Power supply terminal.
53, 54	AGND7, AGND8	Analog ground terminal.
55	OUT1	1ch output terminal.
56*	BBNF1	1ch bass boost filter terminal.
57	OUT2	2ch output terminal.
58*	BBNF2	2ch bass boost filter terminal.
59	BNF22	2ch bass filter terminal 2.
60	BNF12	2ch bass filter terminal 1.
61	BNF21	1ch bass filter terminal 2.
62	BNF11	1ch bass filter terminal 1.
63	TNF1	1ch treble filter terminal.
64	TNF2	2ch treble filter terminal.
65	VIN1	1ch (Lch) volume input terminal.
66	GOUT1	1ch (Lch) input gain output terminal.
67	AGND9	Analog ground terminal.
68	VIN2	2ch (Rch) volume input terminal.
69	GOUT2	2ch (Rch) input gain output terminal.
70	AGND10	Analog ground terminal.
71*	ROUT11	1ch REC input and output terminal 1.
72*	ROUT12	2ch REC input and output terminal 1.
73*	ROUT21	1ch REC output terminal 2.
74*	ROUT22	2ch REC output terminal 2.
75*	ROUT31	1ch REC output terminal 3.
76*	ROUT32	2ch REC output terminal 3.
77	IN11	1ch input terminal 1.
78	IN12	2ch input terminal 1.
79	IN21	1ch input terminal 2.
80	IN22	2ch input terminal 2.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC501 VHiBD3811K1-1: Volume IC (BD3811K1)

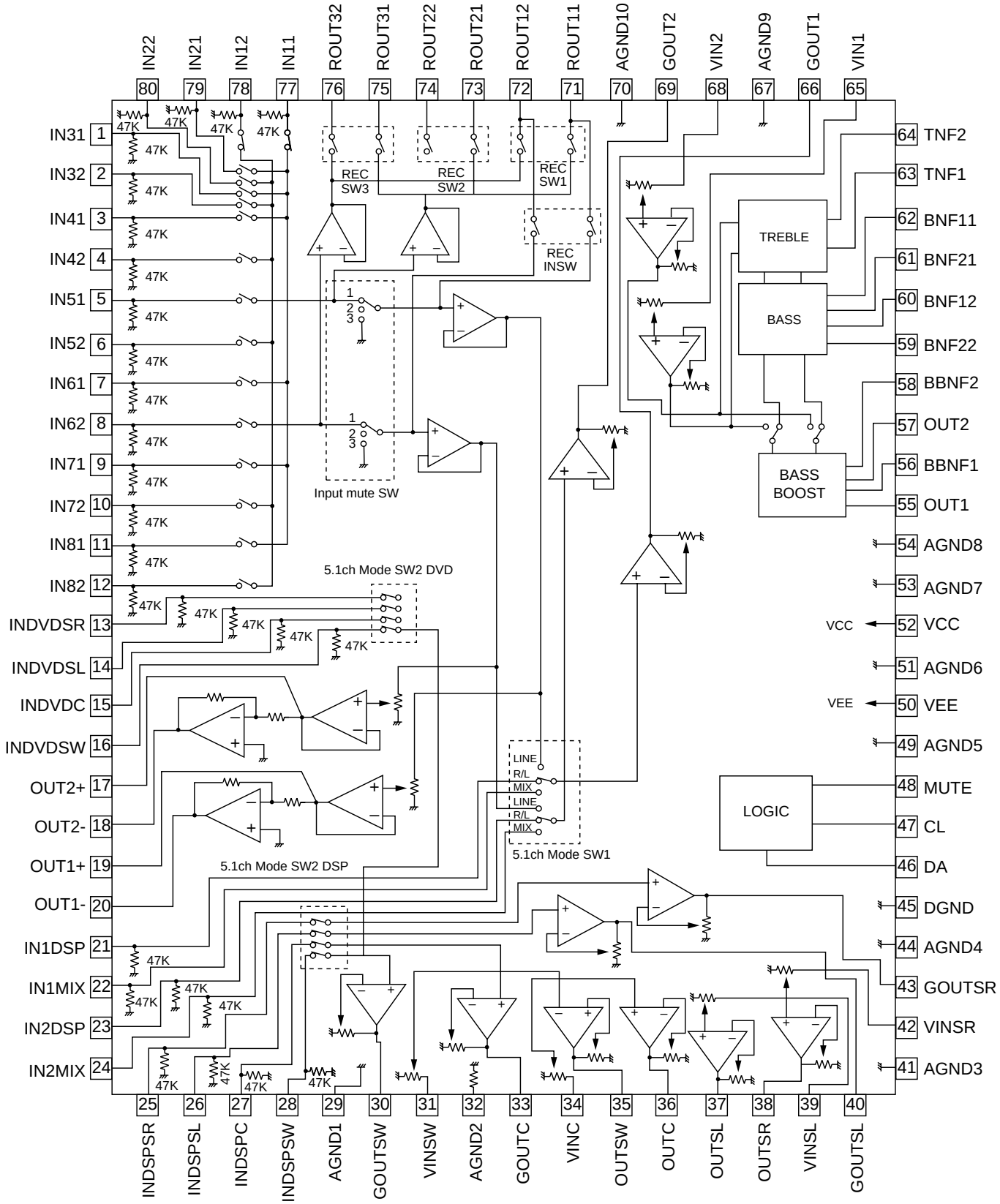


Figure 55 BLOCK DIAGRAM OF IC

IC507 VHiBA05ST++-1: Switch Regulator (BA05ST)

Pin No.	Terminal Name	Function
1	CTL	Output ON/OFF terminal.
2	VCC	Power supply input terminal.
3	GND	Ground terminal.
4	OUT	Output terminal.
5*	N.C.	For BAOOST/SPF SERIES except for BA00AST/ASTFP, it turns to an N.C. terminal.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

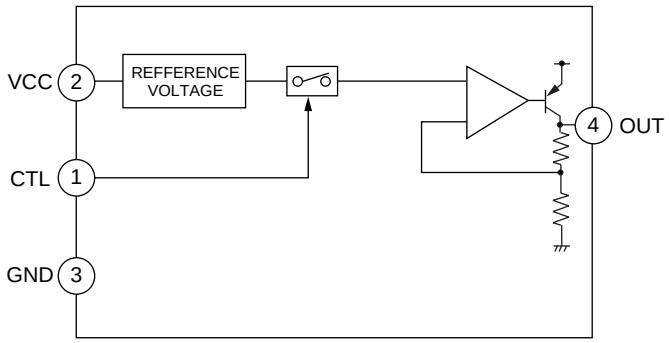


Figure 56-1 BLOCK DIAGRAM OF IC

IC701 RH-iX0564AWZZ: System Microcomputer (IX0564AW)

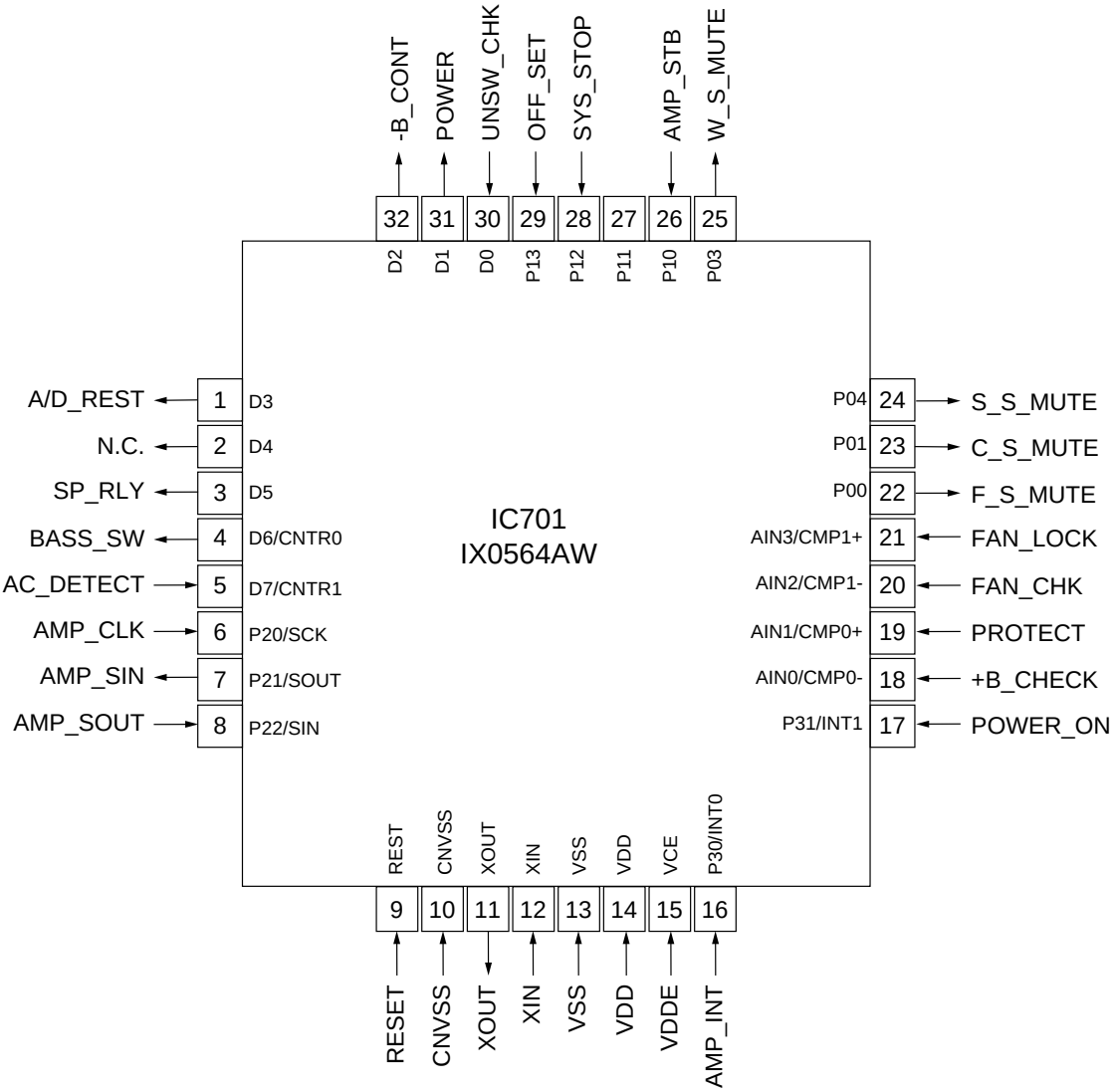


Figure 56-2 BLOCK DIAGRAM OF IC

IC701 RH-iX0564AWZZ: System Microcomputer (IX0564AW)

Pin No.	Port Name	Terminal Name	Input/Output	Function
1	D3	A/D_RESET	Output	Output of 1 bit AMPΔ∑ IC reset control. “H” output : normal operation, reset when switching from “L” to “H”.
2*	D4	N.C.	Output	Open terminal. “L” is output, PWB is open.
3	D5	SP_RLY	Output	Speaker relay output. (For all the speakers) “H” output : relay ON, electric conduction, “L” output : relay OFF
4	D6/CNTR0	BASS_SW	Output	Output for controlling the gain of SUBWOOFER amp. “H” output : BASS OFF, “L” output : BASS ON
5	D7/CNTR1	AC_DETECT	Input	Power failure check with the voltage after the AC rectification. Normal : “L”, power failure detection when switching from “L” to “H”.
6	P20/SCK	AMP_CLK	Input	Clock input for communication with the system microcomputer. Serial auto send/receive.
7	P21/SOUT	AMP_SIN	Output	Data output to the system microcomputer. Serial auto send/receive.
8	P22/SIN	AMP_SOUT	Input	Data input from the system microcomputer. Serial auto send/receive.
9	$\overline{\text{RESET}}$	RESET	Input	Reset input for this microcomputer. Active “L”.
10	CNVSS	CNVSS	Input	0 V (GND).
11	XOUT	XOUT	Output	Reference oscillation output for this microcomputer. 2 MHz ceralcok connection.
12	XIN	XIN	Input	Reference oscillation input for this microcomputer. 2 MHz ceralcok connection.
13	VSS	VSS	Input	GND terminal.
14	VDD	VDD	Input	Positive power supply terminal.
15	VDCE	VDCE	Input	Control of the operation and stop of voltage drop detect circuit. Used in the stop status (connected to GND).
16	P30/INT0	AMP_INT	Output	Communication request signal to the system microcomputer. Request when switching from “H” to “L”.
17	P31/INT1	POWER_ON	Input	SW input for POWER ON/OFF test mode. “H” : normal status, “L” : TEST mode ON/OFF
18	AIN0/CMP0-	+B_CHECK	Input	Power rise monitoring input. Decision of the reset timing of 1 bit AMP.
19	AIN1/CMP0+	PROTECT	Input	A/D import, system abnormality detect input.
20	AIN2/CMP1-	FAN_CHK	Input	A/D import, FAN motor rotation detect input.
21	AIN3/CMP1+	FAN_LOCK	Input	A/D import, FAN motor lock detect input.
22	P00	F_S_MUTE	Output	Front speaker S-MUTE output. “H” output : MUTE-ON, “L” output : MUTE-OFF.
23	P01	C_S_MUTE	Output	Center speaker S-MUTE output. “H” output : MUTE-ON, “L” output : MUTE-OFF.
24	P02	S_S_MUTE	Output	Surround speaker S-MUTE output. “H” output : MUTE-ON, “L” output : MUTE-OFF.
25	P03	W_S_MUTE	Output	Subwoofer speaker S-MUTE output. “H” output : MUTE-ON, “L” output : MUTE-OFF.
26	P10	AMP_STB	Input	Communication request signal from the system microcomputer. Request when switching from “H” to “L”.
27	P11	—	Input	PULL_UP
28	P12	SYS_STOP	Input	Power failure detect input. This microcomputer switches to the backup mode. Normal : “H”, power failure detection when switching from “H” to “L”.
29	P13	OFF_SET	Input	Abnormality detection output of 1 bit AMPΔ∑ IC output offset voltage. L : abnormal
30	D0	UNSW_CHK	Input	Power rise timing control. The power is not risen in “L”.
31	D1	POWER	Output	Output of power supply control. “L” output : POWER ON, “H” output : POWER OFF.
32	D2	-B_CONT	Output	Control output for - B power supply control relay of 1 bit AMP section. “L” output : relay ON, -B supply “H” output : relay OFF

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

ICA100, ICA200, ICA300 RH-iX2815AFZZ: 7th Order ⊿Σ Modulation Conversion LSI (IX2815AF)

Pin No.	Port Name	Input/Output	Function
1	VDDL	Input	L channel digital output section power terminal
2	OUTL (+)	Output	L channel forward output terminal
3	OUTL (–)	Output	L channel reverse output terminal
4	GNDD	—	Digital output section ground terminal
5	OUTR (–)	Output	R channel reverse output terminal
6	OUTR (+)	Output	R channel forward output terminal
7	VDDR	Input	R channel digital output section power terminal
8	VDDX	Input	Oscillation section power terminal
9	XI	Input	Quartz oscillator connection terminal. Clock necessary for the system is generated.
10	XO	Output	Quartz oscillator connection terminal. Clock necessary for the system is generated.
11	GNDX	—	Oscillation section ground terminal
12	MCK	Output	System clock output terminal
13	TEST	Input	Test terminal. As usual, it is used at "L".
14	NFR1 (+)	Input	R channel forward signal feedback input terminal
15	NFR2 (–)	Input	R channel reverse signal feedback input terminal
16	GNDA	—	Analog ground terminal for AD converter
17	Rch IN	Input	R channel analog input terminal
18	Rch Vref	Input	Reference voltage terminal for R channel
19	Lch Vref	Input	Reference voltage terminal for L channel
20	Lch IN	Input	L channel analog input terminal
21	RESET	Input	Reset terminal. It is reset with "L".
22	NFL2 (–)	Input	L channel reverse signal feedback input terminal
23	NFL1 (+)	Input	L channel forward signal feedback input terminal
24	VDDA	Input	Analog current terminal for AD converter

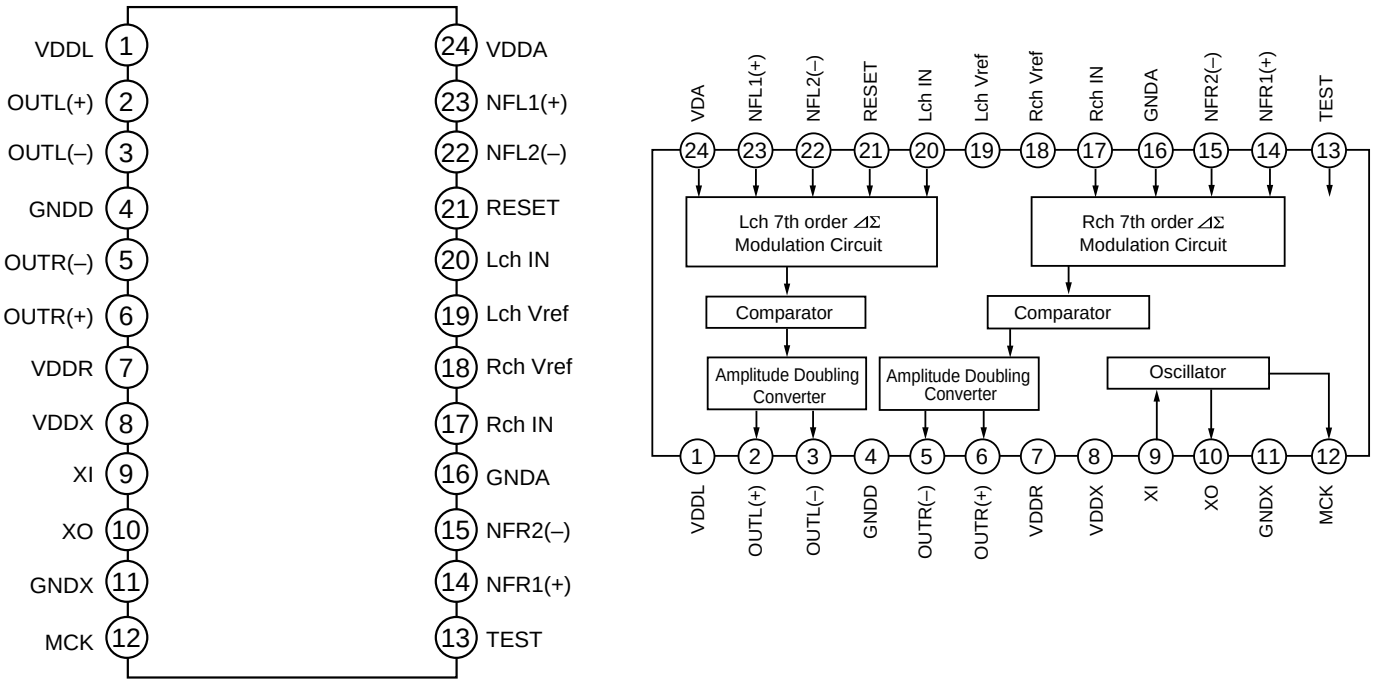


Figure 58 BLOCK DIAGRAM OF IC

ICA102, ICA107, ICA202, ICA207, ICA302, ICA307
VHiSLA5505M-1: Switching Audio Power Amp. (SLA5505M)

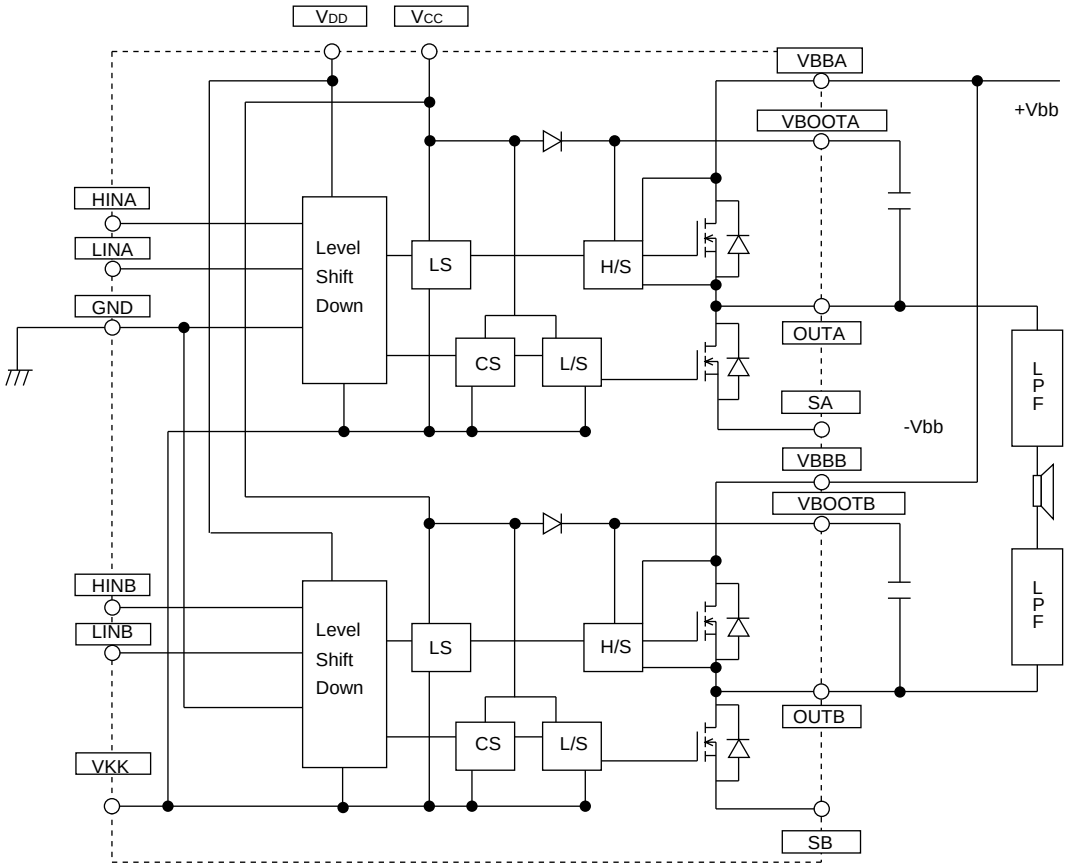


Figure 59 BLOCK DIAGRAM OF IC

— M E M O —

SHARP PARTS GUIDE

1-BIT DIGITAL HOME CINEMA

MODEL SD-AT50H

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK..... Ceramic type
VCT ..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN..... Cylindrical type (without lead wire)
VC • • TV ..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN..... Cylindrical type (without lead wire)
VR • • TV ..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

SD-AT50H

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
INTEGRATED CIRCUITS				
IC101	VHICS493264-1	J	BN	DSP,CS493264
IC102	VHIAK4586VQ-1	J	BC	ADC/DAC/DIR Converter, AK4586VQ
IC103	VHITC7WU04U-1	J	AG	Dual2-Input Nand Gate, TC7WU04U
IC104	VHI74HC07AF-1	J	AF	Buffer Amp.,74HC07AF
IC109	VHITC7WU04U-1	J	AG	Dual2-Input Nand Gate, TC7WU04U
IC110	VHISI3050LUS1	J	AG	Voltage Regulator,SI3050LUS
IC111	RH-IX0446AWZZ	J	AL	Voltage Regulator,IX0446AW
IC112	VHISI3033LUS1	J	AG	3.3V Regulator,SI3033LUS
IC301	RH-IX0563AWZZ	J	BN	DSP System Microcomputer, IX0563AW
IC302	VHIPST9127N-1	J	AG	Reset,PST9127N
IC501	VHIBD3811K1-1	J	AZ	Volume IC,BD3811K1
IC505	VHINJM4565D-1	J	AC	Ope Amp.,NJM4565D
IC507	VHIBA05ST++-1	J	AM	Switch Regulator,BA05ST
IC513	VHIKIA7809AP1	J	AF	Voltage Regulator,KIA7809AP
IC701	RH-IX0564AWZZ	J	AS	System Microcomputer, IX0564AW
IC702	VHIPST9127/-1	J	AG	Reset,PST9127
IC811~813	VHIKIA4558F-1	J	AF	Pre Amp.,KIA4558F
⚠ IC901	VHISTRF6267-1	J	AZ	Switching Regulator,STRF6267
IC911	VHISE-B2+++-1	J	AL	Error Amp.,SE-B2
IC912	VHIKIA7812AP1	J	AF	Voltage Regulator,KIA7812AP
IC913	VHIS812C37A-1	J	AG	3.7V Regulator,S812C37A
ICA100	RH-IX2815AFZZ	J	AV	7th Order ⊿Σ Modulation Conversion LSI,IX2815AF
ICA101	VHITC74AC8T-1	J	AH	Quad 2 Input and Gate, TC74AC8T
ICA102	VHISLA5505M-1	J	AZ	Switching Audio Power Amp., SLA5505M
ICA107	VHISLA5505M-1	J	AZ	Switching Audio Power Amp., SLA5505M
ICA200	RH-IX2815AFZZ	J	AV	7th Order ⊿Σ Modulation Conversion LSI,IX2815AF
ICA201	VHITC74AC8T-1	J	AH	Quad 2 Input and Gate, TC74AC8T
ICA202	VHISLA5505M-1	J	AZ	Switching Audio Power Amp., SLA5505M
ICA207	VHISLA5505M-1	J	AZ	Switching Audio Power Amp., SLA5505M
ICA300	RH-IX2815AFZZ	J	AV	7th Order ⊿Σ Modulation Conversion LSI,IX2815AF
ICA301	VHITC74AC8T-1	J	AH	Quad 2 Input and Gate, TC74AC8T
ICA302	VHISLA5505M-1	J	AZ	Switching Audio Power Amp., SLA5505M
ICA307	VHISLA5505M-1	J	AZ	Switching Audio Power Amp., SLA5505M
ICA400	VHIKIA7806AP1	J	AF	Voltage Regulator,KIA7806AP
ICA401,402	VHIKIA7805AP1	J	AF	Voltage Regulator,KIA7805AP
ICA403	VHIKIA4558P-1	J	AC	Ope Amp.,KIA4558P
ICT01	VHILC72720Y-1	J	AY	RDS Decorder,LC72720Y
TRANSISTORS				
Q1~7	VSKRC107S//-1	J	AB	Digital,NPN,KRC107 S
Q8	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q9	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q303	VSKRA106S//-1	J	AB	Digital,PNP,KRA106 S
Q401,402	VSKRC104S//-1	J	AC	Digital,NPN,KRC104 S
Q501,502	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q503,504	VS2SK246GR/-1	J	AB	FET,2SK246 GR
Q514	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q516	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q517,518	VSKTC2874B+-1	J	AC	Silicon,NPN,KTC2874 B
Q525	VSKTC3205Y/-1	J	AD	Silicon,NPN,KTC3205 Y
Q526	VSKTA1273Y/-1	J	AE	Silicon,PNP,KTA1273 Y
Q527	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q528	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q701	VSKRC104M//-1	J	AC	Digital,NPN,KRC104 M
Q703	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q704	VSKRA106M//-1	J	AB	Digital,PNP,KRA106 M
Q705	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q801	VSKTC3203Y/-1	J	AC	Silicon,NPN,KTC3203 Y
Q811~816	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q817~820	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q822	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q827	VSKTC3205Y/-1	J	AD	Silicon,NPN,KTC3205 Y
Q828	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q829	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q830	VSKTA1271Y/-1	J	AC	Silicon,PNP,KTA1271 Y
Q859	VSCPH3418++-1	J	AG	FET,CPH3418
⚠ Q901	VS2SD1616A+-1	J	AF	Silicon,NPN,2SD1616 A
Q911	VSKRC106M//-1	J	AB	Digital,NPN,KRC106 M
Q918~920	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q921	VSKRC106M//-1	J	AB	Digital,NPN,KRC106 M
Q922~924	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q925	VSKRC106M//-1	J	AB	Digital,NPN,KRC106 M
QA100~103	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
QA200~203	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
QA300~303	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
QA405	VSKRC102S//-1	J	AB	Digital,NPN,KRC102 S
QA406	VSKTA1504GR-1	J	AB	Silicon,PNP,KTA1504 GR
QA409	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
QA410~412	VSKTA1504GR-1	J	AB	Silicon,PNP,KTA1504 GR
QA413~415	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
QA416	VSKTA1504GR-1	J	AB	Silicon,PNP,KTA1504 GR
QA500	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
QA501	VSKTA1504GR-1	J	AB	Silicon,PNP,KTA1504 GR
QT01	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
DIODES				
D1~5	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D101~105	VHDKDS160//-1	J	AB	Silicon,KDS160
D301~308	VHDKDS160//-1	J	AB	Silicon,KDS160
D309~314	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D501,502	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D507~511	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D514	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D516~528	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D537,538	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D701	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D703	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D705~710	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D801	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D813	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D815	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D817~819	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D821	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D827~842	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
⚠ D901	VHDD5SB60++-1	J	AK	Silicon,D5SB60
⚠ D902~906	VHDD1NL20U+-1	J	AD	Silicon,D1NL20U
⚠ D907	VHDSARS03++-1	J	AN	Silicon,SARS03
D911	VHDSF10SC9+-1	J	AM	Silicon,SF10SC9
D912	VHDEK19++++-1	J	AF	Silicon,EK19
D913	VHDSF10SC9+-1	J	AM	Silicon,SF10SC9
D914,915	VHDEK19++++-1	J	AF	Silicon,EK19
D916	VHDEU02A+++-1	J	AD	Silicon,EU02A
D917~919	VHDD1NL20U+-1	J	AD	Silicon,D1NL20U
D920	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D921~923	VHDD1NL20U+-1	J	AD	Silicon,D1NL20U
D924	VHD1N4004S/-1	J	AB	Silicon,1N4004S
DA104~107	VHDKDS160//-1	J	AB	Silicon,KDS160
DA108~115	VHDSFPW56++-1	J	AE	Silicon,SFPW56
DA117	VHDKDS120E+-1	J	AC	Silicon,KDS120E
DA204~207	VHDKDS160//-1	J	AB	Silicon,KDS160
DA208~215	VHDSFPW56++-1	J	AE	Silicon,SFPW56
DA217	VHDKDS120E+-1	J	AC	Silicon,KDS120E
DA304~307	VHDKDS160//-1	J	AB	Silicon,KDS160
DA308~315	VHDSFPW56++-1	J	AE	Silicon,SFPW56
DA317	VHDKDS120E+-1	J	AC	Silicon,KDS120E
DA330	VHDKDS226//-1	J	AB	Silicon,KDS226
DA400	VHDKDS160//-1	J	AB	Silicon,KDS160
DA402	VHDKDS160//-1	J	AB	Silicon,KDS160
DA403	VHDKDS121E+-1	J	AC	Silicon,KDS121E
DA405	VHDKDS160//-1	J	AB	Silicon,KDS160
DA409	VHDKDS160//-1	J	AB	Silicon,KDS160
DA410	VHDKDS120E+-1	J	AC	Silicon,KDS120E
DA413	VHDKDS121E+-1	J	AC	Silicon,KDS121E
DA415	VHDKDS160//-1	J	AB	Silicon,KDS160
DA416	VHDKDS121E+-1	J	AC	Silicon,KDS121E
DA418	VHDSFPW56++-1	J	AE	Silicon,SFPW56
DA421~423	VHDKDS160//-1	J	AB	Silicon,KDS160
DA500	VHDKDS120E+-1	J	AC	Silicon,KDS120E
DA501	VHDKDS160//-1	J	AB	Silicon,KDS160
DA502	VHDKDS121E+-1	J	AC	Silicon,KDS121E
DA503	VHDKDS160//-1	J	AB	Silicon,KDS160
DA504	VHDKDS121E+-1	J	AC	Silicon,KDS121E

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
DA505	VHDKDS120E+-1	J	AC	Silicon,KDS120E
DT01	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
LED1,2	VHP31URT21+-1	J	AD	LED,Red,31URT21
LED3	VHP3105VGT+-1	J	AD	LED,Green,3105VGT
LED4	VHP31URT21+-1	J	AD	LED,Red,31URT21
LED5	VHP3105T1-111	J	AD	LED,Orange,3105T1
LED6	VHP3105VGT+-1	J	AD	LED,Green,3105VGT
LED7	VHP3105T1-111	J	AD	LED,Orange,3105T1
LED8	VHPSEL2E10C-1	J	AK	LED,Blue,SEL2E10C
LED9,10	VHPSELU2E10-V	J	AM	LED,Blue,SELU2E10
LED802~813	VHP31URT21+-1	J	AD	LED,Red,31URT21
TRS901	VHSBT148+++-1	J	AK	Thyristor,BT148
ZD1	VHEDZ3R0BSA-1	J	AB	Zener,3V,DZ3BSA
ZD101	VHEKDZ2R7V+-1	J	AC	Zener,2.7V,KDZ2.7V
ZD502,503	VHEDZ7R5BSB-1	J	AB	Zener,7.5V,DZ7.5BSB
ZD504	VHEDZ3R3BSB-1	J	AB	Zener,3.3V,DZ3.3BSB
ZD813	VHEDZ3R6BSB-1	J	AB	Zener,3.6V,DZ3.6BSB
⚠ ZD901	VHEDZ200BSB-1	J	AB	Zener,20V,DZ20BSB
⚠ ZD902	VHEDZ360BSD-1	J	AB	Zener,36V,DZ36BSD
⚠ ZD904	VHEDZ200BSC-1	J	AB	Zener,20V,DZ20BSC
ZD911	VHEDZ9R1BSB-1	J	AB	Zener,9.1V,DZ9.1BSB
ZD912	VHEDZ5R6BSB-1	J	AC	Zener,5.6V,DZ5.6BSB
ZD913	VHEDZ3R3BSB-1	J	AB	Zener,3.3V,DZ3.3BSB
ZD915,916	VHEDZ120BSB-1	J	AB	Zener,12V,DZ12BSB

TRANSFORMER

⚠ T901	RTRNP0463AWZZ	J	AZ	Switching Power

COILS

L01	VP-XH2R2K0000	J	AB	2.2 µH,Choke
L103	VPBNN2R2K0000	J	AC	2.2 µH
L701	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
L801~803	RCILC0290AFZZ	J	AC	Tip Solid Induction,200mA
⚠ L901,902	RCILZ0051AWZZ	J	AL	AC Line Filter
L911,912	RCILZ0052AWZZ	J	AG	3.3µH
L913~915	VP-MK3R3K0000	J	AB	3.3µH
LA104~107	RCILZ0048AWZZ	J	AM	Coil
LA204~207	RCILZ0048AWZZ	J	AM	Coil
LA304~307	RCILZ0048AWZZ	J	AM	Coil
LA400	RCORF0020AWZZ	J	AD	Core,Ferrite Core
LFA01,02	RCILZ0049AWZZ	J	AH	Coil
LFA03	RCILZ0040AWZZ	J	AH	Coil
LFA100,101	RCILZ0039AWZZ	J	AH	Coil
LFA200,201	RCILZ0039AWZZ	J	AH	Coil
LFA300,301	RCILZ0039AWZZ	J	AH	Coil
LT21,22	VP-XH2R2K0000	J	AB	2.2 µH,Choke

VARIABLE RESISTORS

VRA100	RVR-M0024AWZZ	J	AC	4.7 kohms (B),Semi-VR [R-CH Output Offset Adjustment]
VRA101	RVR-M0024AWZZ	J	AC	4.7 kohms (B),Semi-VR [L-CH Output Offset Adjustment]
VRA200	RVR-M0024AWZZ	J	AC	4.7 kohms (B),Semi-VR [R-CH Output Offset Adjustment]
VRA201	RVR-M0024AWZZ	J	AC	4.7 kohms (B),Semi-VR [L-CH Output Offset Adjustment]
VRA300	RVR-M0024AWZZ	J	AC	4.7 kohms (B),Semi-VR [R-CH Output Offset Adjustment]
VRA301	RVR-M0024AWZZ	J	AC	4.7 kohms (B),Semi-VR [L-CH Output Offset Adjustment]

VIBRATORS

CXA100	RCRSP0030AWZZ	J	AF	Crystal,11.2896 MHz
XL101	RCRSC0003AWZZ	J	AH	Crystal,12.288 MHz
XL301	RCRSC0004AWZZ	J	AG	Crystal,8.38 MHz
XL701	RCRM-0049AWZZ	J	AF	Ceramic,2 MHz
XT01	RCRSP0010AWZZ	J	AH	Crystal,4.332 MHz

THERMISTOR

⚠ PS811	RH-QX0006AWZZ	J	AE	Posistor,4.7 ohms
⚠ PS901~904	RH-QX0017AWZZ	J	AG	Posistor,1.5 ohms
⚠ PSA500~505	RH-QX0018AWZZ	J	AF	Posistor,470 ohms
⚠ TH901	RH-QX0020AWZZ	J	AM	Thermistor,

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION

CAPACITORS

C1	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C2	VCEAEA1CW106M	J	AB	10 µF,16V,Electrolytic
C3	VCCCCY1HH151J	J	AA	150 pF (CH),50V
C11	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C12,13	VCKYTV1EF474Z	J	AA	0.47 µF,25V
C14,15	VCKYCY1EB223K	J	AB	0.022 µF,25V
C16,17	VCKYCY1HB102K	J	AA	0.001 µF,50V
C18	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C101~104	VCKYCY1AF105Z	J	AB	1 µF,10V
C105	VCEAPS225AF1H	J	AB	2.2 µF,50V,Electrolytic
C106	VCKYCY1HB471K	J	AA	470 pF,50V
C107	VCKYCY1CB103K	J	AA	0.01 µF,16V
C108	VCKYCY1AB104K	J	AC	0.1 µF,10V
C109	VCKYCY1AF105Z	J	AB	1 µF,10V
C110	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C111	VCEAPS225AF1H	J	AB	2.2 µF,50V,Electrolytic
C112~114	VCKYCY1AF105Z	J	AB	1 µF,10V
C115	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C116	VCKYCY1AB104K	J	AC	0.1 µF,10V
C117,118	VCKYCY1AF105Z	J	AB	1 µF,10V
C120	VCKYCY1AB104K	J	AC	0.1 µF,10V
C122,123	VCKYCY1HB102K	J	AA	0.001 µF,50V
C124	VCKYCY1AF105Z	J	AB	1 µF,10V
C125,126	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C127	VCKYCY1AF105Z	J	AB	1 µF,10V
C132	VCKYCY1AF105Z	J	AB	1 µF,10V
C133	VCKYCY1AB104K	J	AC	0.1 µF,10V
C135	VCKYCY1HB103K	J	AA	0.01 µF,50V
C136	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C137	VCKYCY1AF105Z	J	AB	1 µF,10V
C138~142	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C143	VCKYCY1CB103K	J	AA	0.01 µF,16V
C144~147	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C148~152	VCEAPS106AF1C	J	AB	10 µF,16V,Electrolytic
C153~156	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C161	VCKYCY1HB102K	J	AA	0.001 µF,50V
C163	VCEAPS107AF1A	J	AD	100 µF,10V,Electrolytic
C164	VCEAPS106AF1C	J	AB	10 µF,16V,Electrolytic
C165	VCKYCY1HB102K	J	AA	0.001 µF,50V
C166	RC-EZ0004AWZZ	J	AD	3.3 µF,16V,Electrolytic
C167	VCKYBT1HB181K	J	AA	180 pF,50V
C168	VCKYBT1HB103K	J	AB	0.01 µF,50V
C169,170	VCKYBT1HB102K	J	AA	0.001 µF,50V
C301	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C302	VCEAPS107AF1A	J	AD	100 µF,10V,Electrolytic
C303	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C304	VCEAPS106AF1C	J	AB	10 µF,16V,Electrolytic
C305,306	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C307	VCCCCY1HH180J	J	AA	18 pF (CH),50V
C308,309	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C310	VCEAPS105AF1H	J	AB	1 µF,50V,Electrolytic
C311,312	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C313,314	VCEAPL0JN227M	J	AH	220 µF,6.3V,Electrolytic
C316	VCKYCY1CB103K	J	AA	0.01 µF,16V
C317	VCEAPS475AF1E	J	AB	4.7 µF,25V,Electrolytic
C318	VCKYCY1CB103K	J	AA	0.01 µF,16V
C319	VCEAPS106AF1C	J	AB	10 µF,16V,Electrolytic
C320	VCKYCY1CF104Z	J	AB	0.1 µF,16V
C501~504	VCEAEA1CW106M	J	AB	10 µF,16V,Electrolytic
C505,506	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C507,508	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C517~520	VCFYDA1HA683J	J	AB	0.068 µF,50V,Polyester
C521,522	VCQYKA1HM472J	J	AA	0.0047 µF,50V,Mylar
C523,524	VCEAEA1CW106M	J	AB	10 µF,16V,Electrolytic
C525	VCEAEA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C526	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C527	VCEAEA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C528	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C529	VCEAEA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C530	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C531	VCEAEA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C532	RC-EZD225AF1H	J	AB	2.2 µF,50V,Electrolytic
C533~538	VCKYCY1HB153K	J	AA	0.015 µF,50V
C571,572	VCKYPA1HB102K	J	AA	0.001 µF,50V
C578	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C582	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C583,584	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C585	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C586	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C587,588	VCKYCY1EF223Z	J	AB	0.022 µF,25V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C589	VCKYCY1HB102K	J	AA	0.001 µF,50V
C590~592	VCKYBT1HB102K	J	AA	0.001 µF,50V
C594	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C595,596	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C598	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C601	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C604	VCEAEA1HW105M	J	AB	1 µF,50V,Electrolytic
C605	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C606	VCKYCY1EF473Z	J	AB	0.047 µF,25V
C629	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C630	VCKYCY1CF105Z	J	AB	1 µF,16V
C632	VCKYCY1HB102K	J	AA	0.001 µF,50V
C633,634	VCEAEA1CW106M	J	AB	10 µF,16V,Electrolytic
C637,638	VCCCCY1HH330J	J	AA	33 pF (CH),50V
C639,640	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C641,642	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C645,646	VCEAEA1HW105M	J	AB	1 µF,50V,Electrolytic
C647,648	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C649	VCKYCY1HB102K	J	AA	0.001 µF,50V
C651,652	VCEAEA1HW105M	J	AB	1 µF,50V,Electrolytic
C653,654	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C655,656	VCEAEA1HW105M	J	AB	1 µF,50V,Electrolytic
C657,658	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C659,660	VCEAEA1HW105M	J	AB	1 µF,50V,Electrolytic
C661,662	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C663,664	VCKYBT1HB101K	J	AA	100 pF,50V
C665,666	VCEAZA1CW227M	J	AC	220 µF,16V,Electrolytic
C691,692	VCKYCY1HB102K	J	AA	0.001 µF,50V
C696	VCEAEA1CW226M	J	AB	22 µF,16V,Electrolytic
C697	VCKYCY1HB102K	J	AA	0.001 µF,50V
C698	VCKYPA1HB102K	J	AA	0.001 µF,50V
C701	VCKYBT1HB103K	J	AB	0.01 µF,50V
C703	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C704	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C706	VCKYCY1EB103K	J	AA	0.01 µF,25V
C707	VCEAZA1EW475M	J	AC	4.7 µF,25V,Electrolytic
C708	VCKYBT1HB103K	J	AB	0.01 µF,50V
C711	VCKYCY1AB104K	J	AC	0.1 µF,10V
C712	VCKYCY1HB472K	J	AA	0.0047 µF,50V
C813,814	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C815,816	VCCSCY1HL330J	J	AD	33 pF,50V
C817,818	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C819,820	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C825,826	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C827,828	VCCSCY1HL330J	J	AD	33 pF,50V
C829,830	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C831,832	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C837	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C839	VCCSCY1HL330J	J	AD	33 pF,50V
C840	VCKYCY1HB102K	J	AA	0.001 µF,50V
C841	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C842	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C846	VCFYHA1HA104J	J	AB	0.1 µF,50V,Thin Film
C847,848	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C850,851	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C852	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C856	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C857	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C859	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C860	VCEAZA1HW335M	J	AB	3.3 µF,50V,Electrolytic
C861~867	VCKYCY1HB102K	J	AA	0.001 µF,50V
C868~873	VCKYCY1HB221K	J	AA	220 pF,50V
C874	VCTYBT1EF223Z	J	AA	0.022 µF,25V
C875	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
⚠ C901	RC-QZ0030AWZZ	J	AD	0.1 µF,250V
⚠ C902,903	RC-KZ0089GEZZ	J	AC	0.001 µF,250V,Ceramic
⚠ C904	RC-KZ007LAWZZ	J	AD	0.0022 µF,250V
⚠ C905	RC-QZ0030AWZZ	J	AD	0.1 µF,250V
⚠ C906~909	RC-KZ007LAWZZ	J	AD	0.0022 µF,250V
⚠ C910	RC-EZ0101AWZZ	J	AV	180 µF,400V,Electrolytic
⚠ C911	RC-BZ0002AWZZ	J	AF	0.001 µF,3.15kV
⚠ C912	VCKYCY1HB221K	J	AA	220 pF,50V
⚠ C913	VCKYCY1HB821K	J	AA	820 pF,50V
⚠ C914	VCKYCY1HB472K	J	AA	0.0047 µF,50V
⚠ C915	VCEA4U1HN475M	J	AC	4.7 µF,50V,Electrolytic
⚠ C916,917	RC-KZ009LAWZZ	J	AE	0.01 µF,400V
⚠ C918	RC-QZ0031AWZZ	J	AE	3300 µF,630V
⚠ C919	RC-EZ0099AWZZ	J	AC	33 µF,35V,Electrolytic
C921,922	RC-QZ0029AWZZ	J	AE	0.01 µF,630V
C923,924	RC-QZ0028AWZZ	J	AE	0.0047 µF,630V
C926	RC-EZ0100AWZZ	J	AC	22 µF,50V,Electrolytic
C927~930	RC-EZ0098AWZZ	J	AH	2200 µF,25V,Electrolytic

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C931,932	VCEAZV1EW108M	J	AE	1000 µF,25V,Electrolytic
C933	RC-EZ0096AWZZ	J	AE	1000 µF,16V,Electrolytic
C934	VCEAZV1CW338M	J	AE	3300 µF,16V,Electrolytic
C935,936	RC-EZ0097AWZZ	J	AF	1000 µF,25V,Electrolytic
C937,938	VCEAZA1EW227M	J	AC	220 µF,25V,Electrolytic
C943,944	VCTYBT1EF223Z	J	AA	0.022 µF,25V
C949	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C950	VCFYHA1HA104J	J	AB	0.1 µF,50V,Thin Film
C951	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C952	VCKYCY1EB104K	J	AD	0.1 µF,25V
C954	VCKYPA1HB331K	J	AA	330 pF,50V
C956	VCEAZA1CW227M	J	AC	220 µF,16V,Electrolytic
C957	VCEAZA1EW227M	J	AC	220 µF,25V,Electrolytic
C958	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C959	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C960	VCQYKA1HM152J	J	AB	0.0015 µF,50V,Mylar
C961	VCKYCY1HB562K	J	AA	0.0056 µF,50V
C962	VCKYCY1HB561K	J	AA	560 pF,50V
C963	VCQYKA1HM183J	J	AB	0.018 µF,50V,Mylar
C965~967	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C970	VCKYBT1HB103K	J	AB	0.01 µF,50V
C971	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C972,973	VCKYBT1HB221K	J	AA	220 pF,50V
CA100~103	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
CA104,105	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA106,107	VCCCCY1HH120J	J	AA	12 pF (CH),50V
CA108,109	VCCCCY1HH180J	J	AA	18 pF (CH),50V
CA110~113	VCKYTV1HB334K	J	AC	0.33 µF,50V
CA114~117	VCFYHA1HA155J	J	AF	1.5 µF,50V,Thin Film
CA118~122	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA126,127	VCFYDA1HA224J	J	AB	0.22 µF,50V,Polyester
CA131	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA132	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
CA133~135	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA136	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
CA138,139	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA140,141	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA142,143	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA144	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA145,146	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA147,148	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA149,150	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA151,152	VCKYTV1HB104K	J	AB	0.1 µF,50V
CA155,156	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA157,158	RC-KZ0007AWZZ	J	AG	1 µF,25V
CA160	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA162,163	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA165	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA167	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA168,169	RC-KZ0007AWZZ	J	AG	1 µF,25V
CA170	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA173,174	VCCCCY1HH180J	J	AA	18 pF (CH),50V
CA175,176	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA177	VCCCCY1HH101J	J	AA	100 pF (CH),50V
CA178	VCCCCY1HH7R0D	J	AA	7 pF (CH),50V
CA200~203	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
CA204,205	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA206,207	VCCCCY1HH120J	J	AA	12 pF (CH),50V
CA208,209	VCCCCY1HH180J	J	AA	18 pF (CH),50V
CA210~213	VCKYTV1HB334K	J	AC	0.33 µF,50V
CA214~217	VCFYHA1HA155J	J	AF	1.5 µF,50V,Thin Film
CA218~221	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA226,227	VCFYDA1HA224J	J	AB	0.22 µF,50V,Polyester
CA231	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA232	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
CA233~235	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA236	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
CA238,239	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA240,241	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA242,243	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA244	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA245,246	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA247,248	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA249,250	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA251,252	VCKYTV1HB104K	J	AB	0.1 µF,50V
CA255,256	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA257,258	RC-KZ0007AWZZ	J	AG	1 µF,25V
CA260	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA262,263	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA265	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA267	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA268,269	RC-KZ0007AWZZ	J	AG	1 µF,25V

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CA270	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA275,276	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA277	VCCCCY1HH101J	J	AA	100 pF (CH),50V
CA300~303	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
CA304,305	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA306,307	VCCCCY1HH120J	J	AA	12 pF (CH),50V
CA308,309	VCCCCY1HH180J	J	AA	18 pF (CH),50V
CA310~313	VCKYTV1HB334K	J	AC	0.33 µF,50V
CA314~317	VCFYHA1HA155J	J	AF	1.5 µF,50V,Thin Film
CA318~321	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA326,327	VCFYDA1HA224J	J	AB	0.22 µF,50V,Polyester
CA331	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA332	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
CA333~335	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA336	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
CA338,339	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA340,341	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA342,343	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA344	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA345,346	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA347,348	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA349,350	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA351,352	VCKYTV1HB104K	J	AB	0.1 µF,50V
CA355,356	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA357,358	RC-KZ0007AWZZ	J	AG	1 µF,25V
CA360	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA362,363	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA365	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA367	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA368,369	RC-KZ0007AWZZ	J	AG	1 µF,25V
CA370	VCKYCY1HB102K	J	AA	0.001 µF,50V
CA375,376	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA377	VCCCCY1HH101J	J	AA	100 pF (CH),50V
CA378,379	VCKYPA1HB102K	J	AA	0.001 µF,50V
CA403	VCEAZA1EW107M	J	AB	100 µF,25V,Electrolytic
CA404	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
CA405	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA406,407	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
CA408	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA411,412	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
CA413	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA417~422	VCEAZA1EW107M	J	AB	100 µF,25V,Electrolytic
CA424,425	VCKYCY1AB224K	J	AB	0.22 µF,10V
CA426	VCKYCY1EB103K	J	AA	0.01 µF,25V
CA427	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
CA428	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CA431~433	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CT01	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
CT02	VCKYCY1EF223Z	J	AB	0.022 µF,25V
CT03,04	VCCCCY1HH150J	J	AA	15 pF (CH),50V
CT05	VCEAEA1CW106M	J	AB	10 µF,16V,Electrolytic
CT06~08	VCKYCY1EF223Z	J	AB	0.022 µF,25V
CT09	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
CT10	VCKYCY1EF223Z	J	AB	0.022 µF,25V
CT11	VCKYCY1HB561K	J	AA	560 pF,50V
CT12	VCKYBT1HB101K	J	AA	100 pF,50V
CT13~15	VCCCCY1HH101J	J	AA	100 pF (CH),50V

RESISTORS

	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
	VRS-TV2AB000J	J	AA	0 ohm,Jumper,1.25×2mm,Green
R1	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R2	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R3	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R4	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R5~7	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R8	VRD-ST2CD561J	J	AA	560 ohms,1/6W
R9	VRD-ST2EE121J	J	AA	120 ohms,1/4W
R10	VRD-ST2EE330J	J	AA	33 ohms,1/4W
R11	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R12	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R13	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R18	VRD-ST2CD100J	J	AA	10 ohm,1/6W
R101	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R102~105	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R106~113	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R114~116	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R117,118	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R119	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R120	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R121	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R122~124	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R125,126	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R127,128	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R129	VRS-CY1JB4R7J	J	AA	4.7 ohms,1/16W
R130	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R131	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R132	VRS-CY1JB471J	J	AA	470 ohms,1/16W
R133	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R134	VRS-CY1JB4R7J	J	AA	4.7 ohms,1/16W
R138	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R139~141	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R144	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R146,147	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R148	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
R149	VRS-CY1JB471J	J	AA	470 ohms,1/16W
R150	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R301~307	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R308	VRS-CY1JB224J	J	AA	220 kohms,1/16W
R309,310	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R311	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R312	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R313	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R314,315	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R316	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R317	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R318	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R319	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R320	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R323	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R325,326	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R328~330	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R331,332	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R333~339	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R341	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R342~344	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R346	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R347~356	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R361	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R362	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R363	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R364	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R365,366	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R370~375	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R379	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R381~383	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R385~389	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R391,392	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R394,395	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R396	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R397	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R398	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R399	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R400	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R401~403	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R404,405	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R406,407	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R408	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R410,411	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R412,413	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R414	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R500,501	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R504,505	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R507,508	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R509,510	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R511,512	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R513,514	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R515,516	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R517,518	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R519,520	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R521,522	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R583,584	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R585,586	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R587,588	VRS-CY1JB823J	J	AA	82 kohms,1/16W
R590~592	VRD-ST2EE820J	J	AA	82 ohms,1/4W
R593,594	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R595	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R596	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R597,598	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R599	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R600	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R601,602	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R603	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W

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NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R604,605	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R606	VRD-ST2CD474J	J	AA	470 kohms,1/6W
R607	VRD-ST2CD224J	J	AA	220 kohms,1/6W
R608	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R611	VRD-RT2HD121J	J	AA	120 ohms,1/2W
R612	VRD-RT2HD470J	J	AA	47 ohms,1/2W
R613,614	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R615	VRS-CY1JB474J	J	AA	470 kohms,1/16W
R616	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R619,620	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R621	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R626,627	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R631,632	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R633,634	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R635,636	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R637,638	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R639,640	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R641,642	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R643,644	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R645,646	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R647	VRD-ST2EE820J	J	AA	82 ohms,1/4W
R648	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R649	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R651	VRD-ST2EE820J	J	AA	82 ohms,1/4W
R652	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R688	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R689	VRD-RT2HD121J	J	AA	120 ohms,1/2W
R690	VRD-RT2HD470J	J	AA	47 ohms,1/2W
R701	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R703	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R704	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R705	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R706,707	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R708,709	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R711	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R712,713B	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R713A	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R714A	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R714B	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R715~717	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R719,720	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R723	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R724	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R725,726	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R727	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R730	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R731,732	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R733~736	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R737,738	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R739	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R740	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R741	VRD-ST2CD393J	J	AA	39 kohms,1/6W
R744	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R745	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R746,747	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R748	VRS-CY1JB474J	J	AA	470 kohms,1/16W
R749	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R750	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R751	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R752	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R753	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R754	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R755	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R756	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R757	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R758	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R759	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R761	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R762	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R763	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R764	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R765	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R766	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R768	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R769	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R770	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R801	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R805	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R809	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R810	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R811,812	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R813	VRS-CY1JB821J	J	AA	820 ohms,1/16W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R814	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R815,816	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R817,818	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R819,820	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R821,822	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R823,824	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R825,826	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R827	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R828	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R831,832	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R833	VRS-CY1JB274J	J	AA	270 kohms,1/16W
R834	VRS-TQ2BB473J	J	AA	47 kohms,1/8W
R835,836	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R837,838	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R839,840	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R841,842	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R843,844	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R845,846	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R847	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R851	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R852	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R855	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R857	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R859	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R860	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R861,862	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R863,864	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R865,866	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R873	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R874	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R875	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R878	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R879	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R880	VRS-CY1JB124J	J	AA	120 kohms,1/16W
R889	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R890	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R892	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R893	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
R894	VRD-ST2EE100J	J	AA	10 ohm,1/4W
R895	VRD-ST2EE561J	J	AA	560 ohms,1/4W
R896	VRS-CY1JB102J	J	AA	1 kohm,1/16W
⚠ R901	VRS-VV3DA393J	J		39 kohms,2W
⚠ R903	VRD-ST2EE100J	J	AA	10 ohm,1/4W
⚠ R904	VRD-ST2CD153J	J	AA	15 kohms,1/6W
⚠ R905	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
⚠ R906	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
⚠ R907	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
⚠ R908	VRD-ST2EE105J	J	AA	1 Mohm,1/4W
⚠ R909	VRS-VV3DA473J	J	AB	47 kohms,2W
⚠ R910	VRD-ST2CD221J	J	AA	220 ohms,1/6W
⚠ R911,912	RR-FZ0009AWZZ	J	AD	0.18 ohms,2W
⚠ R915	VRD-RT2HD394J	J	AB	390 kohms,1/2W
⚠ R917	VRD-RT2HD220J	J	AA	22 ohms,1/2W
⚠ R918	VRS-VV3DA393J	J		39 kohms,2W
R921	VRS-TQ2BB272J	J	AA	2.7 kohms,1/8W
R923	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R924	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R925	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R926	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R927	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R928	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R929	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R930	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R931	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R932	VRD-RT2HD392J	J	AA	3.9 kohms,1/2W
R933	VRD-RT2HD332J	J	AA	3.3 kohms,1/2W
R934	VRD-RT2HD102J	J	AA	1 kohm,1/2W
R935	VRS-TQ2BB152J	J	AA	1.5 kohms,1/8W
R936	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R937,938	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R939	VRS-TQ2BB681J	J	AA	680 ohms,1/8W
R940	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R945	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R946,947	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R949	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R950	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R951	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R952	VRS-CY1JB103J	J	AA	10 kohm,1/16W
⚠ R953	VRD-ST2CD154J	J	AA	150 kohms,1/6W
RA100,101	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
RA102,103	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
RA104~107	VRS-CY1JB124D	J	AA	120 kohms,1/16W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
RA108,109	VRS-CY1JB203D	J	AB	20 kohms,1/16W
RA110~113	VRS-CY1JB101J	J	AA	100 ohm,1/16W
RA114~117	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA118~121	VRS-CY1JB221J	J	AA	220 ohms,1/16W
RA122~125	VRS-CY1JB272D	J	AA	2.7 kohms,1/16W
RA126~129	VRS-CY1JB821D	J	AA	820 ohms,1/16W
RA130~133	VRS-CY1JB753D	J	AA	75 kohms,1/16W
RA134~137	VRS-CY1JB151D	J	AA	150 ohms,1/16W
RA138~141	VRS-CY1JB561D	J	AB	560 ohms,1/16W
RA142~145	VRS-CY1JB153J	J	AA	15 kohms,1/16W
RA146,147	VRN-CM05N470J	J	AE	47 ohms,5W,Metal Film
RA148,149	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
RA150	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RA181	VRS-CY1JB101J	J	AA	100 ohm,1/16W
RA200,201	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
RA202,203	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
RA204~207	VRS-CY1JB124D	J	AA	120 kohms,1/16W
RA208,209	VRS-CY1JB203D	J	AB	20 kohms,1/16W
RA210~213	VRS-CY1JB101J	J	AA	100 ohm,1/16W
RA214~217	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA218~221	VRS-CY1JB221J	J	AA	220 ohms,1/16W
RA222~225	VRS-CY1JB272D	J	AA	2.7 kohms,1/16W
RA226~229	VRS-CY1JB821D	J	AA	820 ohms,1/16W
RA230~233	VRS-CY1JB753D	J	AA	75 kohms,1/16W
RA234~237	VRS-CY1JB151D	J	AA	150 ohms,1/16W
RA238~241	VRS-CY1JB561D	J	AB	560 ohms,1/16W
RA242~245	VRS-CY1JB153J	J	AA	15 kohms,1/16W
RA246,247	VRN-CM05N470J	J	AE	47 ohms,5W,Metal Film
RA248,249	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
RA250	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RA282	VRS-CY1JB101J	J	AA	100 ohm,1/16W
RA300,301	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
RA302,303	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
RA304~307	VRS-CY1JB124D	J	AA	120 kohms,1/16W
RA308,309	VRS-CY1JB203D	J	AB	20 kohms,1/16W
RA310~313	VRS-CY1JB101J	J	AA	100 ohm,1/16W
RA314~317	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA318~321	VRS-CY1JB221J	J	AA	220 ohms,1/16W
RA322~325	VRS-CY1JB272D	J	AA	2.7 kohms,1/16W
RA326~329	VRS-CY1JB821D	J	AA	820 ohms,1/16W
RA330~333	VRS-CY1JB753D	J	AA	75 kohms,1/16W
RA334~337	VRS-CY1JB151D	J	AA	150 ohms,1/16W
RA338~341	VRS-CY1JB561D	J	AB	560 ohms,1/16W
RA342~345	VRS-CY1JB153J	J	AA	15 kohms,1/16W
RA346,347	VRN-CM05N470J	J	AE	47 ohms,5W,Metal Film
RA348,349	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
RA350	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RA382	VRS-CY1JB101J	J	AA	100 ohm,1/16W
RA400	VRS-VV3DA330J	J	AB	33 ohms,2W
RA401	VRS-CY1JB473J	J	AA	47 kohms,1/16W
RA402,403	VRS-CY1JB331J	J	AA	330 ohms,1/16W
RA408	VRS-CY1JB123J	J	AA	12 kohms,1/16W
RA409	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RA411	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RA412	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RA425~430	VRS-CY1JB271J	J	AA	270 ohms,1/16W
RA431~436	VRN-VV3DAR20J	J	AB	0.2 ohms,2W,Metal Film
RA437~442	VRS-CY1JB271J	J	AA	270 ohms,1/16W
RA443~448	VRN-VV3DAR20J	J	AB	0.2 ohms,2W,Metal Film
RA449~454	VRS-CY1JB273J	J	AA	27 kohms,1/16W
RA455	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
RA456~461	VRS-CY1JB273J	J	AA	27 kohms,1/16W
RA462	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
RA463,464	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RA465	VRS-CY1JB104J	J	AA	100 kohm,1/16W
RA466	VRS-CY1JB225J	J	AA	2.2 Mohms,1/16W
RA467,468	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RA469	VRS-CY1JB104J	J	AA	100 kohm,1/16W
RA470	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RA471	VRS-CY1JB273J	J	AA	27 kohms,1/16W
RA472	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA473	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RA474	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA475	VRS-CY1JB273J	J	AA	27 kohms,1/16W
RA476	VRS-CY1JB225J	J	AA	2.2 Mohms,1/16W
RA477	VRS-CY1JB104J	J	AA	100 kohm,1/16W
RA478,479	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RA480	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RA481	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RA482	VRS-CY1JB104J	J	AA	100 kohm,1/16W
RA483~489	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RA490,491	VRS-CY1JB473J	J	AA	47 kohms,1/16W
RA492,493	VRS-VV3DA100J	J	AB	10 ohm,2W
RA500~505	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA506	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
RA507	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA508	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
RA509	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA510	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
RA511	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RA512	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RA513	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RA514	VRS-CY1JB104J	J	AA	100 kohm,1/16W
RA515	VRS-VV3AA560J	J	AB	56 ohms,1W
RA516	VRS-CY1JB473J	J	AA	47 kohms,1/16W
RA517	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RA518	VRS-CY1JB473J	J	AA	47 kohms,1/16W
RA519,520	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RA521	VRS-CY1JB333J	J	AA	33 kohms,1/16W
RA522	VRS-CY1JB223J	J	AA	22 kohms,1/16W
RT01~04	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RT05	VRD-ST2CD224J	J	AA	220 kohms,1/6W
RT06,07	VRS-CY1JB224J	J	AA	220 kohms,1/16W
RT08,09	VRS-CY1JB563J	J	AA	56 kohms,1/16W
RT10	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RT11	VRS-CY1JB224J	J	AA	220 kohms,1/16W
RT17	VRD-ST2CD104J	J	AA	100 kohm,1/6W

OTHER CIRCUITRY PARTS

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
BI507/CNS507	QCNWN2459AWZZ	J	AF	Connector Ass'y,3/3Pin
BI801/CNS801	QCNWN2400AWZZ	J	AM	Connector Ass'y,9/8Pin
BI802/CNS802A	QCNWN2401AWZZ	J	AH	Connector Ass'y,5/4Pin
BI803/CNS803A	QCNWN2402AWZZ	J	AN	Connector Ass'y,13/12Pin
BI804/CNS805	QCNWN2486AWZZ	J	AG	Connector Ass'y,9/7Pin
BI901/CNS901	QCNWN2399AWZZ	J	AK	Connector Ass'y,4/5Pin
BI902/CNS902	QCNWN2510AWZZ	J		Connector Ass'y,2/3Pin
CN501A	QCNCWYV25AWZZ	J	AE	Plug,25Pin
CN501B	QCNCWYW25AWZZJ		AF	Plug,25Pin
CN502A	QCNCWYV25AWZZ	J	AE	Plug,25Pin
CN502B	QCNCWYW25AWZZJ		AF	Plug,25Pin
CN503A	QCNCWYS09AWZZ	J	AD	Plug,9Pin
CN503B	QCNCWYW09AWZZJ		AD	Plug,9Pin
CNA100	QCNCM932MAFZZ	J	AE	Plug,12Pin
CNA101	QCNCM670HAFZZ	J	AD	Plug,8Pin
CNA103	QCNCM670DAFZZ	J	AC	Plug,4Pin
CNA104	QCNCM670EAFZZ	J	AC	Plug,5Pin
CNP504	QCNCWZP11AWZZ	J	AC	Plug,11Pin
CNP505	QCNCM052MAWZZ	J	AQ	Terminal,SYSTEM CONTROL
CNP506	QCNCM052HAWZZ	J	AL	Terminal,SYSTEM CONTROL
CNP507	QCNCM869CAFZZ	J	AC	Plug,3Pin
CNP801	QCNCM052HAWZZ	J	AL	Terminal,SYSTEM CONTROL
CNP802	92LCONE2P5268	J	AB	Plug,2Pin
CNP803	QCNCM704BAFZZ	J	AA	Plug,2Pin
CNP805	92LCONE7P53253	J	AC	Plug,7Pin
CNP901	QCNCM052MAWZZ	J	AQ	Terminal,SYSTEM CONTROL
CNS802B	QCNWN2403AWZZ	J	AG	Socket,2Pin
CNS803B	QCNWN2407AWZZ	J	AD	Socket,2Pin
COR501,502	RCORF0015AWZZ	J	AB	Core
⚠ F901	QFS-C322AAWNL	J	AD	Fuse,T3.15A L 250V
FFC501	QCNWN2405AWZZ	J	AF	Flat Cable,25Pin
FFC502	QCNWN2429AWZZ	J	AG	Flat Cable,25Pin
FFC503	QCNWN2428AWZZ	J	AD	Flat Cable,9Pin
FFC504	QCNWN2404AWZZ	J	AD	Flat Cable,11Pin
JT501	QSOCJ0410AWZZ	J	AF	Terminal,DVD/CD/TV Input
JT502	QSOCJ0410AWZZ	J	AF	Terminal,VTR/AUX Input
⚠ K1,2	QLUGP0002AWZZ	J	AB	Lug Terminal
LCD1	RV-LX0028AWZZ	J	BB	LCD
LUG901,902	QLUGP0001AWZZ	J	AC	Lug Terminal
M1	RMOTV0027AWZZ	J	AM	Motor,Air Cooling Fan
⚠ PC901	RH-FX0008GEZZ	J	AE	Photocoupler
RL801~803	RRLYD0016AWZZ	J	AH	Relay
⚠ RL911	RRLYD0020AWZZ	J	AM	Relay
RMS1	VHLGP1UD271-1	J	AL	Remote Sensor,GP1UD271
RX101	VHPGP1F521R-1	J	AP	Optical Input Terminal,Aux Digital
SO1	QJAKM0024AWZZ	J	AG	Jack,Headphones
SO101	QSOCJ0114AWZZ	J	AD	Optical Input Terminal,DVD/CD Digital
SO102	QJAKM0025AWZZ	J	AF	Terminal,SYSTEM CONTROL
SO801	QTANZ0001BGZZ	J	AK	Terminal,Speaker
⚠ SO901	QSOCA0302AWZZ	J	AN	Socket,AC Input
SW1	92LSWICHT1663T	J	AC	Switch,Key Type [POWER]
SW2	92LSWICHT1663T	J	AC	Switch,Key Type [Volume Up]
SW3	92LSWICHT1663T	J	AC	Switch,Key Type [Volume Down]

SD-AT50H

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
SW4	92LSWICHT1663T	J	AC	Switch,Key Type [Digital/Analog]
SW5	92LSWICHT1663T	J	AC	Switch,Key Type [Function]
TP300	QCNCM890JAFZZ	J	AG	Plug,9Pin
TUN1	RTUNS0030AWZZ	J	BF	Tuner Unit
⚠ VA901	VHVTN10V471-1	J	AE	Varistor,10V471K
WI01	QCNWN2512AWZZ	J		Lug Wire

CABINET PARTS

201	92LCAB4886ASY1	J		Front Panel Ass'y
201- 1	————		—	Front Panel (Not Replacement Item)
201- 2	HDECQ0933AWSA	J	AD	Indicator,Remote Control
201- 3	HDECQ0934AWSA	J	AD	Indicator,LED
201- 4	HDECQ0938AWSA	J	AD	Indicator,Delta
201- 5	HDECQ0946AWSA	J	AE	Window,LCD
201- 6	JKNBZ0903AWSA	J	AG	Button,Operation
201- 7	PSHEP0123AWZZ	J		Barrier,Blue LED
202	GBOXS0097AWSA	J	BN	Subwoofer Box
203	GCABC1308AWSA	J	AS	Top Cabinet
204	GCABC1309AWSA	J	AS	Bottom Cabinet [Except for U.K.]
204	GCABC1310AWSA	J	AS	Bottom Cabinet [For U.K.]
205	GCOVA1454AWSA	J	AT	Rear Cover,Subwoofer
206	GITAR1114AWSA	J	AH	Rear Panel
207	GITAR1077AWSA	J	AH	Terminal Panel
208	GITAU0001AWSA	J	AX	Stand,Subwoofer
209	HDECQ0935AWSA	J	AF	Lighting Plate
210	HPNLS1072AWSA	J	AY	Front Panel,Subwoofer
211	LANGK0183AWFW	J	AE	Bracket,Fan Motor
212	LANGK0342AWFW	J	AK	Bracket,Side Support,Left
213	LANGK0343AWFW	J	AK	Bracket,Side Support,Right
214	LANGK0344AWFW	J	AF	Bracket,Top Support
215	LANGK0346AWFW	J	AE	Bracket,Fan Motor Support
216	LANGK0348AWFW	J	AF	Bracket,Power PWB Support
217	LANGK0351AWFW	J	AD	Bracket,Terminal Support
218	LANGK0353AWFW	J	AG	Bracket,Front
219	LBNDJ2008SCZZ	J	AA	Nylon Band
220	LCHSM0179AWFW	J		Main Chassis,Power
221	LCHSM0169AWFW	J	AP	Chassis,1-Bit Amp.
222	LHLDF1021AWZZ	J	AC	Holder,PWB
223	LHLDW1002AWSA	J	AD	Holder,Cable
224	LHLDZ1436AWSA	J	AE	Holder,LCD
225	LPLTP0013AWZZ	J	AN	Plate,1-Bit Amp. Unit
226	MSPRD0108AWFJ	J	AC	Spring,Fan Motor
227	NBRGC0003AWZZ	J	AC	Bearing Metal
228	NFANP0001AWZZ	J	AD	Rotary Fan
229	PCUSG0001AWSA	J	AD	Cushion,Fan Motor
230	PCUSG0127AWZZ	J	AC	Leg Cushion
231	PCUSG0128AWZZ	J	AD	Leg Cushion,Subwoofer
232	PCUSG0135AWZZ	J	AE	Cushion
234	PFLT-0072AWZZ	J	AC	Felt
235	PFLT-0073AWZZ	J	AB	Felt,C
236	PRDAR0215AWFW	J	AK	Heat Sink,A
237	PRDAR0247AWFW	J	AL	Heat Sink,1-Bit Amp.
238	PRDAR0251AWFW	J	AE	Heat Sink,B
239	PRDAR0252AWFW	J	AG	Heat Sink,C
240	PRDAR0258AWFW	J	AG	Heat Sink,D
241	PSHEP0110AWZZ	J	AC	Sheet,Reflection
242	PSHEP0111AWZZ	J	AE	Sheet,Diffusion
243	PSLDM3105AWFW	J	AT	Cover,1-Bit Amp.
244	PSPAZ0039AWZZ	J	AC	Spacer,Fan Motor
245	PSPAZ0045AWZZ	J	AC	Spacer,Earth
⚠ 246	QFSHD0001AWZZ	J	AB	Holder,Fuse
247(SP6)	RSPA10080AW4W	J	BB	Subwoofer
248	TSPC-1166AWZZ	J		Label,Specifications [Except for U.K.]
248	TSPC-1167AWZZ	J	AD	Label,Specifications [For U.K.]
249	92LCSPR1431C	J	AA	Spring,Ring
250	QCNWN2403AWZZ	J	AG	Subwoofer Cord
251	TLABZ1309AWZZ	J		Label,Subwoofer Terminal
252	TLABZ1229AWSA	J	AE	Label,Subwoofer Speaker Terminal
253	LANGK0368AWFW	J	AD	Bracket,Front Sub Support,Left
254	LANGK0369AWFW	J	AD	Bracket,Front Sub Support,Right
255	PSLDM3109AWFW	J	AG	Shield Plate,DSP
258	PFLT-0071AWZZ	J	AC	Felt,A
259	PFLT-0075AWZZ	J	AB	Felt,D
260	PSLDM3112AWFW	J		FTZ Shield Plate
261	PSHEP0124AWZZ	J		Barrier,Power Transformer
601	LX-BZ0880AFZZ	J	AC	Screw,ø2×2.2mm
602	LX-JZ0010AFFD	J	AA	Screw,ø3×10mm
603	LX-JZ0022AFFD	J	AA	Screw,ø3×10mm
605	LX-JZ0042AWZZ	J	AB	Screw,ø3×20mm
606	XBPSD30P06KS0	J	AA	Screw,ø3×6mm
607	XEBSD30P10000	J	AA	Screw,ø3×10mm
608	XHBSN30P08000	J	AA	Screw,ø3×8mm
610	XJBSD30P08000	J	AA	Screw,ø3×8mm
611	XJBSD30P16000	J	AA	Screw,ø3×16mm
612	XJBSF30P08000	J	AA	Screw,ø3×8mm
614	XJBSF30P12000	J	AA	Screw,ø3×12mm
615	XJBSN30P08000	J	AA	Screw,ø3×8mm
616	XTBSD40P12000	J	AA	Screw,ø4×12mm
617	XTBSD40P16000	J	AA	Screw,ø4×16mm
618	XTBSF30P16000	J	AA	Screw,ø3×16mm
619	XWSSN32-07000	J	AB	Washer,ø3.2mm
620	XJSSD20P06000	J	AA	Screw,ø2×6mm
621	XJBSD30P06000	J	AA	Screw,ø3×6mm
622	XJBSF30P16000	J	AA	Screw,ø3×16mm

SPEAKER BOX PARTS

901	GCABB1298AWM1	J	AT	Cabinet
902	HPNLS1071AWM1	J	AP	Panel
903	LANGF0067AWFW	J	AD	Bracket
904	PKYU-0006AWZZ	J	AD	Suound Absorber
905	QCNWN2406AWZZ	J	AM	Lead Wire Ass'y
906	QTANA9017AWZZ	J	AK	Terminal,Speaker
907	TSPC-1168AWZZ	J	AE	Label,Specifications
908	XJBSF30P12000	J	AA	Screw,ø3×12mm
SP1~5	RSPA00066AW6P	J	AX	Speaker

ACCESSORIES/PACKING PARTS

1	————		—	Battery (Not Replacement Item)
2	PCUSG0129AWSA	J	AC	Sheet,Leg
⚠ 3	QACCB0017AW00	J	AV	AC Power Supply Cord
⚠ 3	QACCE0013AW00	J	AP	AC Power Supply Cord
4	QANTL0012AWZZ	J	AS	AM Loop Antenna
5	QCNWG0048AWZZ	J	AM	DVD Signal Cable
6	QCNWG0049AWZZ	J	AZ	System Cable
7	QCNWG0050AWZZ	J	BA	System Cable
8	QCNWG0052AWZZ	J	BD	Speaker Cord
9	QCNWG0055AWZZ	J	AL	Video Cable
10	QCNWG0060AWZZ	J		DVD Control Cable
⚠ 11	QPLGZ9001BGZZ	J	AR	AC Plug Adaptor
⚠ 12	QPLGZ9002BGZZ	J	AR	AC Plug Adaptor
13	RRMCG0356AWSA	J	AY	Remote Control
13- 1				Battery Lid,Remote Control
14	SPAKA0401AWZZ	J	AF	Packing Add.,Front,AV Control Unit
15	SPAKA0402AWZZ	J	AF	Packing Add.,Rear,AV Control Unit
16	SPAKA0405AWZZ	J	AQ	Packing Add.,Front/Rear, Subwoofer
17	SPAKA0406AWZZ	J	AK	Packing Add.,Top,Speaker
18	SPAKA0407AWZZ	J	AK	Packing Add.,Bottom,Speaker
19	SPAKC1542AWZZ	J		Packing Case
20	SPAKF0022AWZZ	J		Packing Case,Accessories
21	SPAKS0006AWZZ	J	AM	Sleeve
22	SPAKT0033AWZZ	J	AK	Inner Case,AV Control Unit
23	SPAKZ0914AWZZ	J	AK	Pad,Accessories
24	SPAKZ0915AWZZ	J	AL	Pad,Protection
25	SPAKZ0916AWZZ	J	AG	Pad,Stand
26	SPAKZ0957AWZZ	J	AF	Pad,Bottom,Subwoofer
27	SSAKA0007AWZZ	J	AB	Polyethylene Bag,Accessories
28	SSAKA0013AWZZ	J	AA	Polyethylene Bag,Stand
29	SSAKH0095AWZZ	J	AC	Polyethylene Bag,AV Control Unit
30	SSAKH0096AWZZ	J	AF	Polyethylene Bag,Subwoofer
31	SSAKH0097AWZZ	J	AD	Polyethylene Bag,Speaker
32	TCAUZ0163AWZZ	J		Caution,Subwoofer
33	TGAN-3170UMZZ	J	AE	Resistration Card [For U.K. Only]
34	TINSE0481AWZZ	J		Operation Manual [For U.K.]
34	TINSZ0868AWZZ	J	AV	Operation Manual [Except for U.K.]
35	TINSE0482AWZZ	J		Quick Guide [For U.K. Only]
36	TLABE0718AWZZ	J		Label,Bar Code
37	TLABM0174AWSA	J		Label,Feature
38	TLABN0162AW01	J	AB	Label,VM No.
39	TLABZ1308AWZZ	J		Label,Model
40	92LBAG1770A	J	AB	Polyethylene Bag,AC Power Supply Cord [For U.K. Only]

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
41	92LFANT1535A	J	AF	FM Antenna
42	92LHOLD4809ASY	J	AL	Stand Ass'y
43	TCAUZ0153AWZZ	J		Speaker Connect Sheet [Except for U.K. Only]

P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A1,2	92LPWB4886MANS	J	—	Main/Display (Combined Ass'y)
PWB-B	92LPWB4886DSPS	J	—	DSP
PWB-C	92LPWB4886PWRS	J	—	Power
PWB-D	92LPWB4886AMPS	J	—	1-Bit
PWB-E	QPWBF0985AWZZ	J	AH	Limit (PWB Only)
PWB-F	QPWBF0986AWZZ	J		Filter (PWB Only)

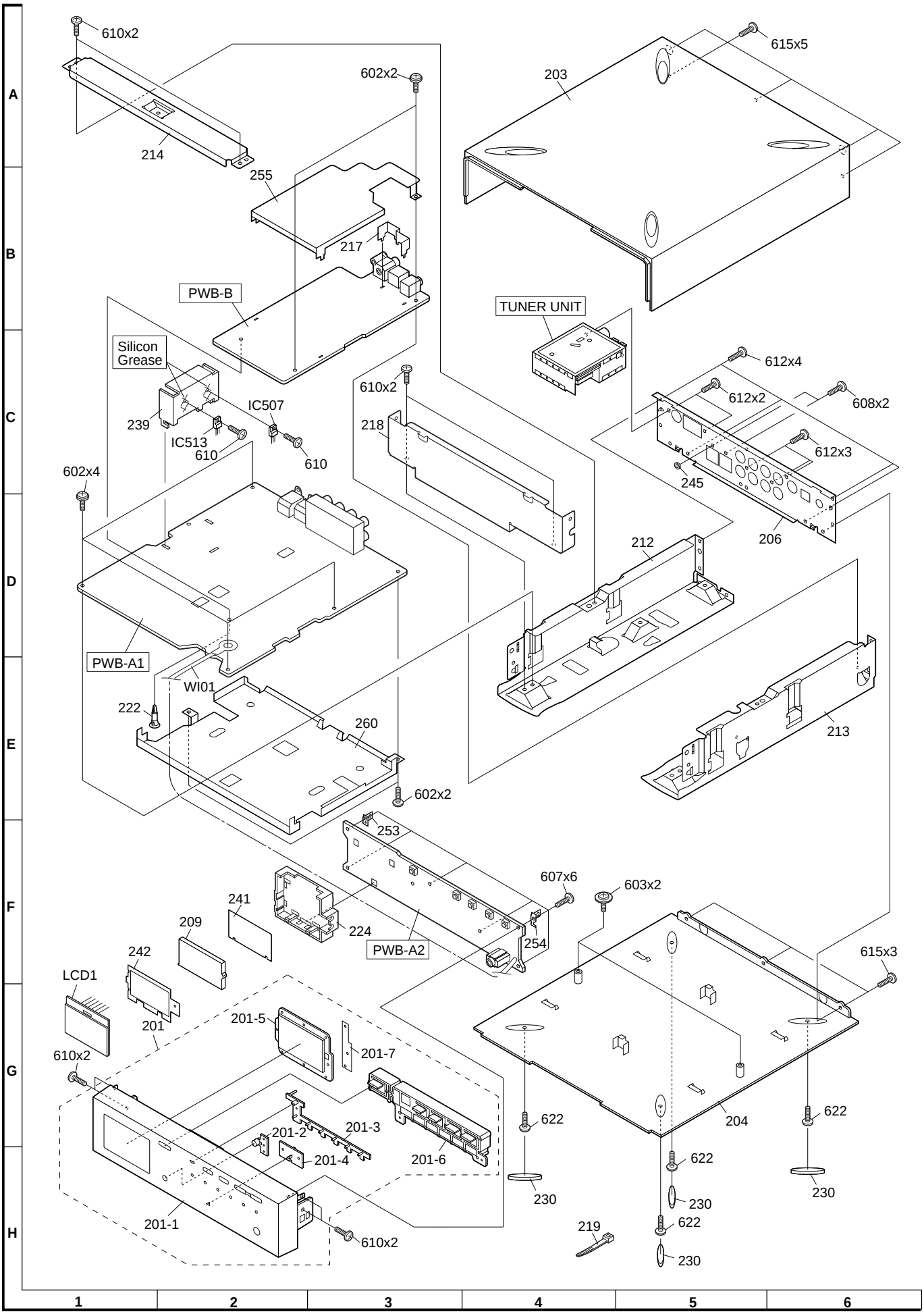


Figure 9 CABINET EXPLODED VIEW (1/2)

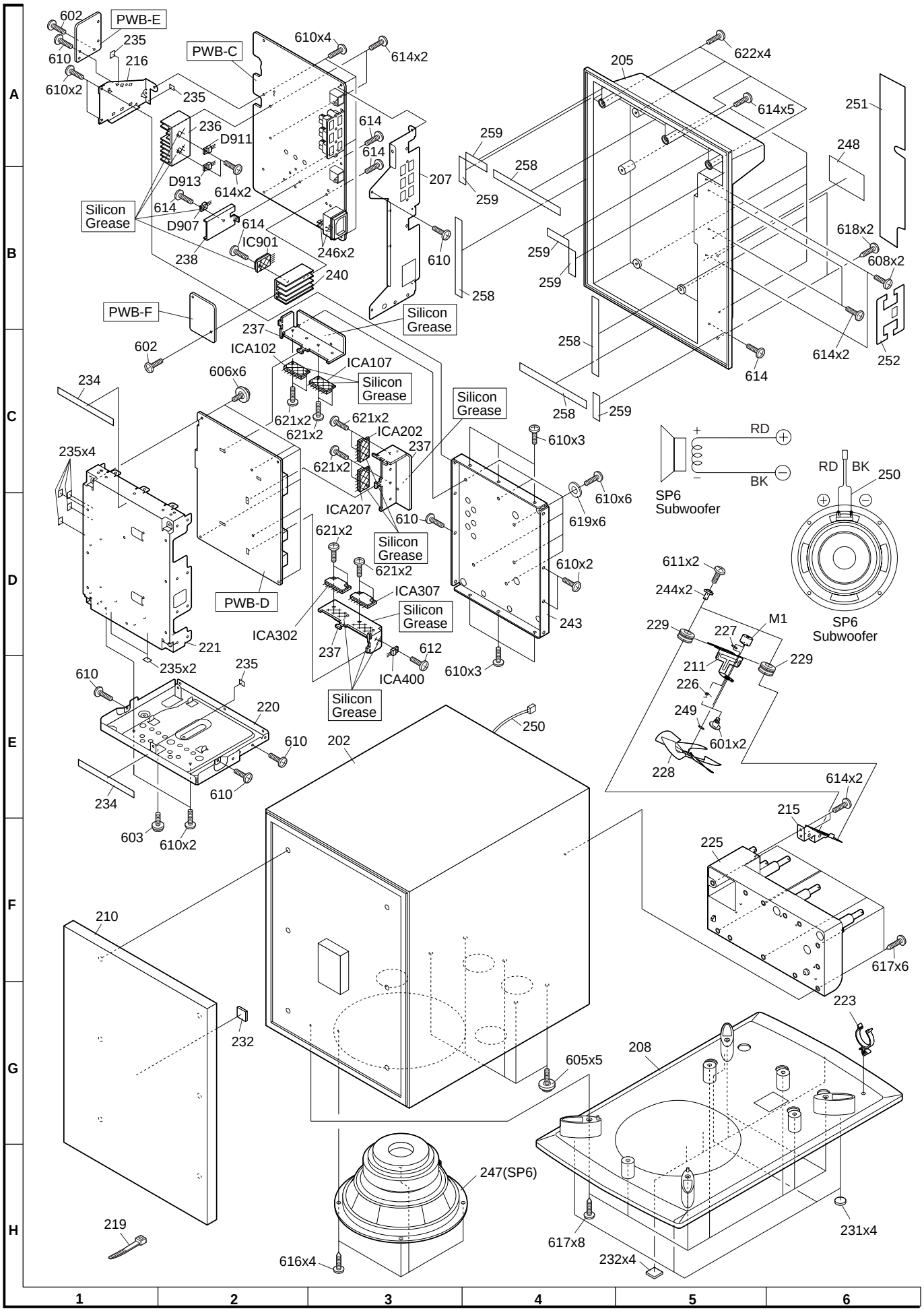


Figure 10 CABINET EXPLODED VIEW (2/2)

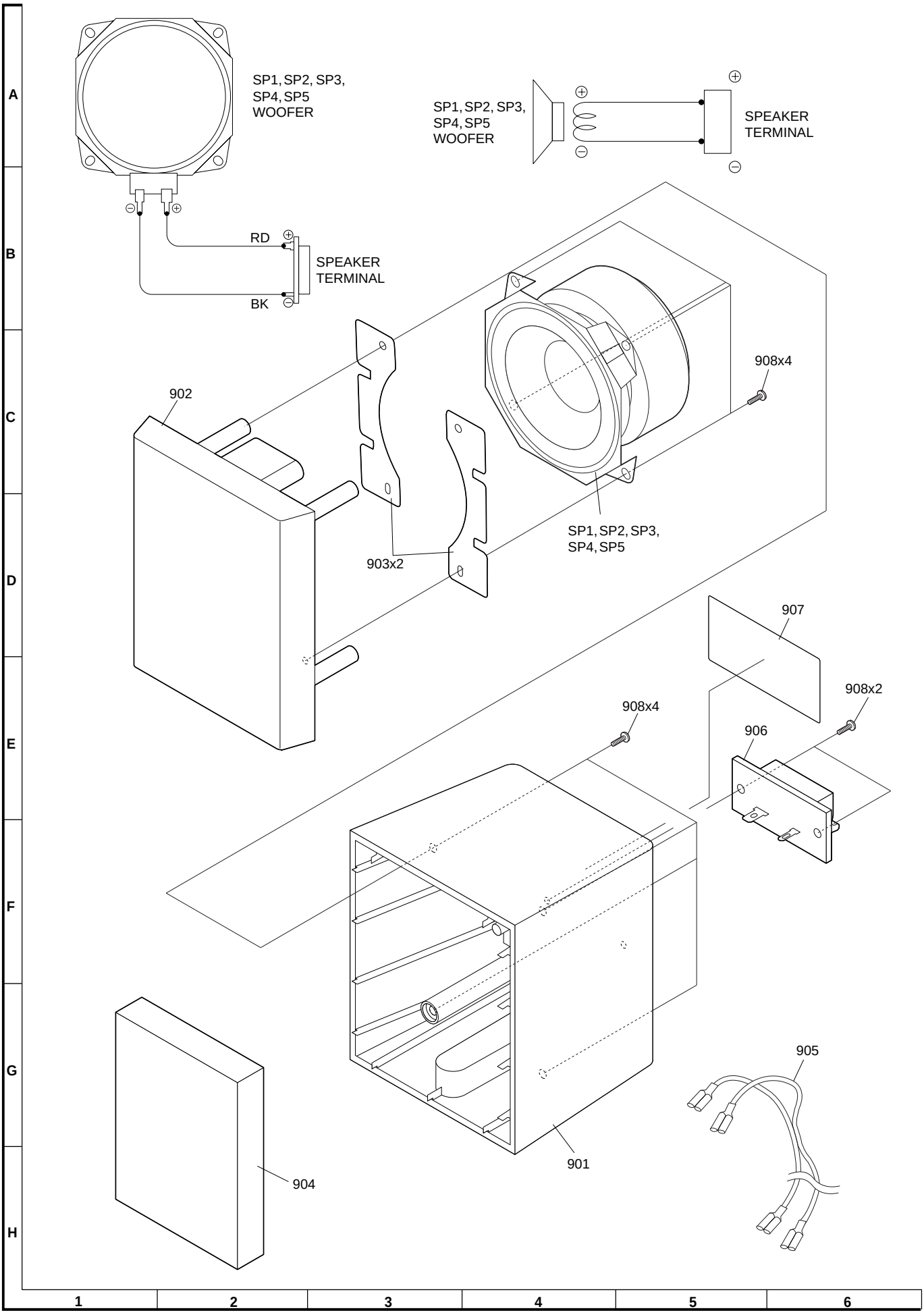
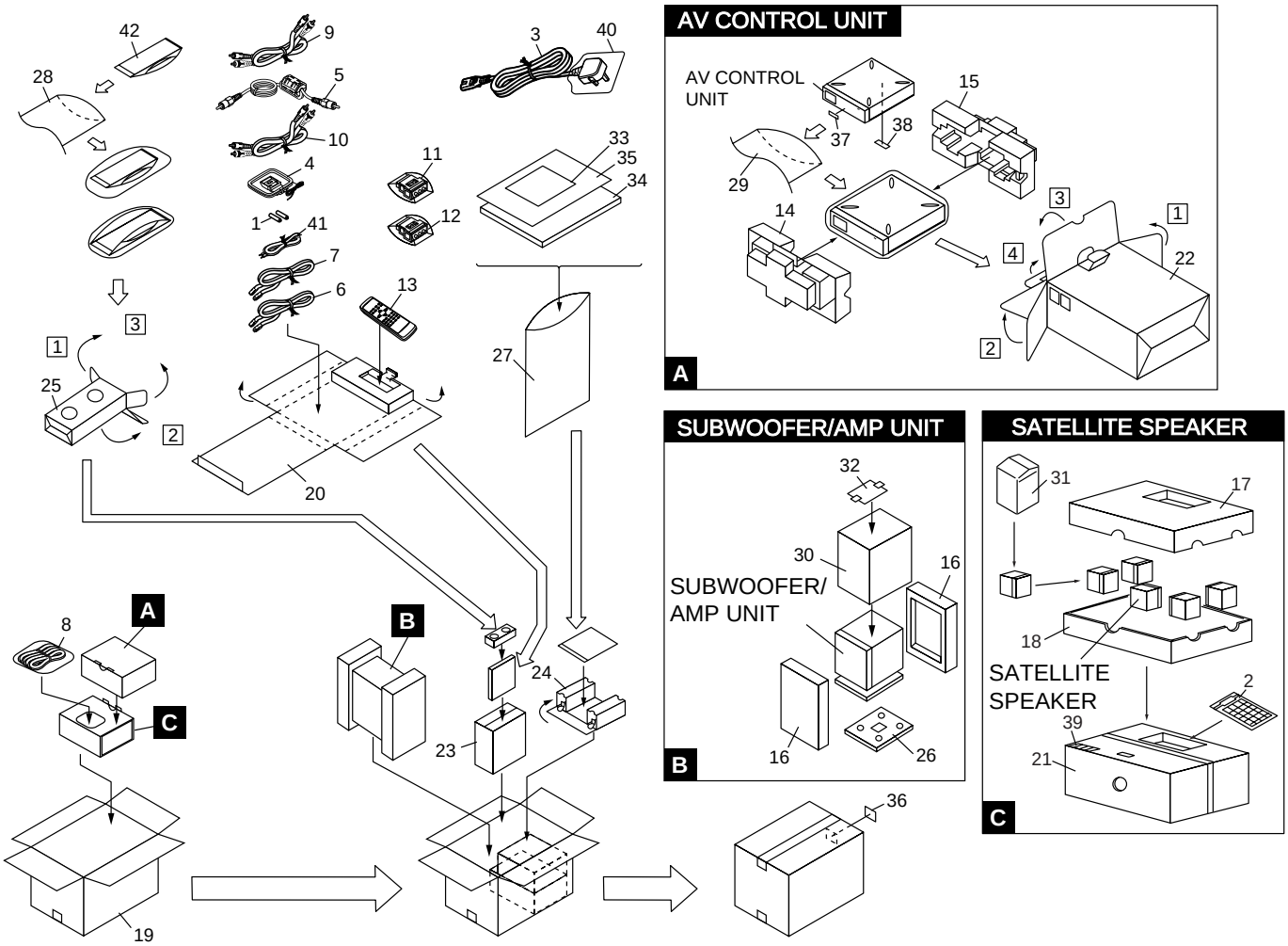


Figure 11 SPEAKER EXPLODED VIEW

PACKING METHOD (FOR U.K. ONLY)

1. Battery	————————	21. Sleeve	SPAKS0006AWZZ
2. Sheet, Leg	PCUSG0129AWSA	22. Inner Case, AV Control Unit	SPAKT0033AWZZ
3. AC Power Supply Cord	QACCB0017AW00	23. Pad, Accessories	SPAKZ0914AWZZ
4. AM Loop Antenna	QANTL0012AWZZ	24. Pad, Protection	SPAKZ0915AWZZ
5. DVD Signal Cable	QCNWG0048AWZZ	25. Pad, Stand	SPAKZ0916AWZZ
6. System Cable	QCNWG0049AWZZ	26. Pad, Bottom, Subwoofer	SPAKZ0957AWZZ
7. System Cable	QCNWG0050AWZZ	27. Polyethylene Bag, Accessories	SSAKA0007AWZZ
8. Speaker Cord	QCNWG0052AWZZ	28. Polyethylene Bag, Stand	SSAKA0013AWZZ
9. Video Cable	QCNWG0055AWZZ	29. Polyethylene Bag, AV Control Unit	SSAKH0095AWZZ
10. DVD Control Cable	QCNWG0060AWZZ	30. Polyethylene Bag, Subwoofer	SSAKH0096AWZZ
11. AC Plug Adaptor	QPLGZ9001BGZZ	31. Polyethylene Bag, Speaker	SSAKH0097AWZZ
12. AC Plug Adaptor	QPLGZ9002BGZZ	32. Caution, Subwoofer	TCAUZ0163AWZZ
13. Remote Control	RRMCG0356AWSA	33. Resistration Card	TGAN-3170UMZZ
14. Packing Add., Front, AV Control Unit	SPAKA0401AWZZ	34. Operation Manual	TiNSE0481AWZZ
15. Packing Add., Rear, AV Control Unit	SPAKA0402AWZZ	35. Quick Guide	TiNSE0482AWZZ
16. Packing Add., Front/Rear, Subwoofer	SPAKA0405AWZZ	36. Label, Bar Code	TLABE0178AWZZ
17. Packing Add., Top, Speaker	SPAKA0406AWZZ	37. Label, Feature	TLABM0174AWSA
18. Packing Add., Bottom, Speaker	SPAKA0407AWZZ	38. Label, VM No.	TLABN0162AW01
19. Packing Case	SPAKC1542AWZZ	39. Label, Model	TLABZ1308AWZZ
20. Packing Case, Accessories	SPAKF0022AWZZ	40. Polyethylene Bag, AC Power Supply Cord	92LBAG1770A
		41. FM Antenna	92LFANT1535A
		42. Stand Ass'y	92LHOLD4809ASY



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